ISBN 0-7729-0457-X(v.1)

ONTARIO SOIL BASELINE SURVEY
- ANALYTICAL DATA 1980-1981 -

VOLUME 1
SOIL BASELINE PROGRAM

TERRESTRIAL EFFECTS PROGRAM
ACIDIC PRECIPITATION IN ONTARIO STUDY

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ONTARIO MINISTRY OF THE ENVIRONMENT
NOVEMBER, 1984

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(VOLUME 1)

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ACKNOWLEDGEMENTS

S.N. Linzon, Chairman of the A.P.I.O.S. Terrestrial Effects Working Group, originated the concept of the soil baseline program and has guided its development.

During 1980 and 1981, the collection of soil samples throughout Ontario involved a number of people. This work was accomplished under the co-ordination of M.A. Griffith (Southern Ontario), T. Spires (Northeastern Region) and W. Carswell (Northwestern Region). The development of an A.P.I.O.S. soils' laboratory and the chemical analyses of all soil samples were undertaken by the Laboratory Services Branch under the direction of A. Neary. The tables that form the bulk of Volumes 2 and 3 were typed by 2001 Word Processing Services .

Volume 1 of this report was written by M. A. Griffith, A.P.I.O.S., Soil Specialist, Phytotoxicology Section, Air Resources Branch. T. Spires of Northern Terrestrial Consultants and P. Barclay, Lakehead University provided most of the information regarding Northeastern and Northwestern Ontario, respectively. All members of the Terrestrial Effects Working Group's Technical Sub-committee assisted in various editing stages of the report, principally D. Griffin, W. McIlveen, D. Dimma, A. Neary and T. Spires.

SUMMARY

The soil baseline program began in 1980 and is part of the Ministry of Environment's Acidic Precipitation in Ontario Study (A.P.I.O.S.). Over 300 locations were sampled in 1980 and 1981 throughout the province. Soil samples were analyzed at the Ministry's laboratory for pH, texture, iron, aluminum organic and inorganic carbon, major nutrient ions and trace metals. The major objectives of the soil baseline program, methods used to sample soils and analytical methods employed are provided in Volume 1. In addition, the effect of acidic precipitation on soils, the glacial history of Ontario, and some theories of soil development are briefly outlined in Volume 1. A uniform data base for soils across Ontario now exists and is presented in Volumes 2 (Analytical Data for Southern Ontario) and 3 (Analytical Data for Northern Ontario) of this report. The analytical data sheets are grouped by region as given in Volume 1, and arranged according to the sampling date. To locate a particular site, the number given on the map in Volume 1 refers to the final three digits of the location code given on the data sheets.

SOIL BASELINE PROGRAM

INTRODUCTION

Acidic deposition comprises all acidifying components deposited from the atmosphere as a result of man-made and natural activities. Sulphur dioxide and oxides of nitrogen undergo complex chemical reactions in the atmosphere to form acidic substances. These acids can be transported over extremely large distances but eventually fall to the ground as dry or wet deposition.

The Acidic Precipitation in Ontario Study (A.P.I.O.S.) was established in 1979 by the Ontario Ministry of the Environment to protect the Ontario environment from the detrimental effects of acidic deposition, based on study findings. One study task is to determine the effects of acidic deposition on terrestrial ecosystems. The soil baseline program commenced in 1980 as the first phase of the terrestrial study.

The effect of acid inputs on the environment depends on the quantity and acidity of atmospheric inputs, and the buffering capacity of the terrestrial and aquatic ecosystems. The effect of acidic precipitation on soil is potentially significant because the soil is the reservoir of plant nutrients and the source of much of the water for aquatic systems. Changes in the soil's chemistry may therefore be reflected in both the terrestrial and aquatic environments. Information on the effects of acidic precipitation on soils is available from effects near point sources of pollution, from experimentation with simulated rain solutions, from natural changes observed in soil over time, and from models and soil forming theories. Anticipated effects of soil acidification include: reduced pH, leaching of basic cations (such as magnesium and calcium) and other exchangeable plant nutrients, reduction in base saturation and cation-exchange capacity, mobilization of soil-bound metals such as aluminum, and changes in biological activity such as decreased nitrification and soil respiration (Bache, 1980).

OBJECTIVES

The principal objective of the baseline program is to establish a uniform data base for soils across the province. This data base 1) provides current data to identify future trends, 2) enables the development of laboratory experiments which define soil sensitivity criteria to acidic precipitation, and 3) provides information required for sensitivity mapping of soils throughout Ontario.

TREND IDENTIFICATION

Baseline data describe the current status of Ontario soils. Trends in soil chemistry are monitored by resampling baseline soil profiles over an extended period and comparing these results to natural background variations in soil properties. Trends will likely vary across the province, depending on site sensitivity and atmospheric contaminant loading.

Little usable historical soil chemical data are available for Ontario. Generally, past soil surveys have been based on aerial photographs and intermittent point checks in the field. Earlier surveys concentrated on agricultural or managed land, and exact sampling locations are unknown. Because a variety of sampling and analytical methods was used, comparison among different surveys done at different times is unreliable. In contrast, the APIOS program attempted to restrict sampling to areas which are, currently, not managed and which offer reasonable access and long-term security. The baseline sites are mapped and the analytical methods are documented.

SOIL MAPPING

A data bank obtained by standardized field and analytical methods for soils associated with major landforms is desirable prior to mapping soil sensitivity to acidic precipitation. Important information which may be necessary when rating the sensitivity of a soil to acidification includes soil pH, cation exchange capacity, base cation content, soil depth, texture, carbonate content and sulphate adsorption capacity. This soils data base will, therefore, be used to prepare a map showing the relative sensitivities of Ontario soils to acidic deposition.

SAMPLING METHODS

SITE SELECTION

A.P.I.O.S. baseline soil sites are, whenever possible, located on presently unmanaged soils. Provincial parks, conservation areas and crown land offering reasonable access and long-term security were found to be the most suitable for baseline sampling.

Site locations are identified by UTM co-ordinates and a sketch map is prepared in the field showing the sampling location in reference to permanent local features. Sufficient detail is included to permit site relocation. The site is also described according to the guidelines in the Field Manual for Describing Soils (1982).

SAMPLING PROCEDURE

A pit, approximately 1 m^2, was dug to a depth sufficient to permit sampling of the parent material. The soil profile was described according to criteria adopted by The Canadian System of Soil Classification (1978). The soil profile was photographed and a sketch was drawn of one of the faces sampled to show major soil horizon boundaries and the positions of stones, root masses, and sampling points.

Beginning at the deepest horizon, duplicate samples, each approximately 1 kg in weight, were collected with a hand trowel from opposite sides of the soil pit and placed in labelled plastic bags. The depth of each

horizon was noted. When sampling was concluded, soil horizons were returned to the pit in the reverse order from which they were removed to achieve the least possible disturbance of the sampling site. Thin horizons, particularly bleached horizons beneath the surface layers, proved difficult to sample without contamination from adjacent horizons.

Soil profiles in the Southern and Northwestern Regions were not classified using soil taxonomic procedures, as this was unnecessary for the APIOS study. Classifying the large number of profiles in these areas would have been a very time consuming task. Profiles in Northeastern Ontario, however, were classified according to The Canadian System of Soil Classification (1978) (under the direction of T. Spires) as this information will also be used for other purposes.

Present plans call for a re-sampling frequency of approximately once every 5 years for baseline sites in Ontario. New soil pits will be dug adjacent to the original pits. To reduce potential effects of seasonal variations on soil properties, repeat samples will be collected at the same time of year as the original survey.

SOIL SAMPLE PREPARATION AND ANALYSES

To minimize physical and chemical degradation of the soil, samples are spread out on non-metallic trays and air dried for 48 hours within a few days of collection. Dried samples are disaggregated with a porcelain mortar and pestle and passed through a 2 mm sieve. At least 150 g of the < 2 mm mesh fraction is placed in a glass jar and submitted to the Ministry's Toronto laboratory for analysis. A 5 g subsample is thoroughly ground to pass through a 100 mesh sieve (150 um) and submitted in a glass vial. This fine, homogeneous

sample is easily digested and used for analysis of trace metals, carbonates, organic carbon and pyrophosphate and dithionite-extractable iron and aluminum. The remainder of the <2 mm fraction is stored in cardboard or glass containers of suitable size.

The following analyses are performed on the samples: pH (in distilled water and in O.01M calcium chloride, 1:2 soil: solution ratio); NaCl exchangeable calcium, magnesium, potassium, and aluminum; an estimate of permanent charge cation exchange capacity (by summation of exchangeable cations measured); Na-pyrophosphate and Na-dithionite-citrate-bicarbonate extractable iron, aluminum and manganese; organic carbon (Walkley-Black); total calcium carbonate equivalent (reaction with HCl and CO_2 measurement using a volumetric calcimeter); total nitrogen (Kjeldahl); total P and/or plant available phosphorus (Na-bicarbonate extractable), soluble S (distilled water extractable, measurement by ICP); soluble SO_4 (distilled water extractable, and measurement by ion chromatography); soluble aluminum (0.01M $CaCl_2$-extractable); $HNO_3/HClO_4$-extractable Cu, Ni, Pb and Zn; and texture (% sand, % silt, % clay by wet sieve/sedimentation - pipette analysis). For further information on the analytical methods refer to the Procedures Manual Terrestrial Effects, Acid Precipitation in Ontario Study (A.P.I.O.S.) Report No. 007/83, Ontario Ministry of the Environment.

DEVELOPMENT OF ONTARIO SOILS

HISTORY OF ONTARIO SOIL DEVELOPMENT

Approximately 13,500+ years ago all of Ontario was covered by glaciers (Prest, 1976). As the glaciers advanced, then receded, a variety of landforms common to Ontario today were produced. The history of glaciation is complex and only a simplified account will be presented.

The Laurentide ice sheet which covered Ontario was composed of a number of lobes. Each lobe carried debris from areas far to the northeast or northwest as well as from local sources. The hard bedrock of the Canadian Shield in northern Ontario was stripped of its soil by this ice sheet. Only sterile, polished bedrock plains were left which then received a new cover of shallow till (unstratified deposits of stone, gravel, sand and/or silt) from the glacier.

Much of the original soil on the Canadian Shield was picked up by the advancing glacier and reworked and deposited in southern Ontario as till plains. The glacier often reworked the till to form other features known as moraines (well defined mounds of till) and drumlins (smooth elongated hummocks of till). Glacial meltwater carrying till poured from the edge of the glacier as it receded producing outwash plains. Other fluvial-glacial deposits in Ontario are spillways (channels of old meltwater drainage courses), eskers (snake-shaped ridges of irregularly stratified sand and gravel) and kames or recessional moraines (knobby hills of irregularly stratified sand and gravel).

Ponding of meltwater by the glaciers created lakes where none now exist. The floors of these former lakes and ponds are known as lacustrine plains (clay plain, sand plain). Fragments of glacial lake deposits such as beaches and shorelines, are still noticeable in Ontario.

Bedrock geology contributes little to direct soil development in Ontario although much of the till which forms the parent material of the soil is bedrock derived. The parent material of Ontario soils is generally the debris deposited by the glaciers or their lakes. There is a broad range of indigenous and exotic plant cover in Ontario. Generally the acidic litter associated with coniferous forests enhances podzolization or acidification of soils. Ground vegetation, including lichens and mosses will also affect soil development. Man influences and/or disturbs the development of soils by building roads and urban centres, by felling forests, and by cultivating the land. Atmospheric pollution, including acidic precipitation, may be an additional influence on soil development.

SOIL DEVELOPMENT

A soil consists of layers, known as horizons, of mineral and/or organic matter. These horizons differ in their physical, chemical, mineralogical, and biological characteristics (Joffe, 1949). A soil profile consists of one or more horizons. Leahey (1961) explains that surface horizons contain organic matter derived from plants and organisms. These surface horizons are subject to weathering and leaching of mineral matter more than any other horizon. Below this, a horizon occurs which accumulates most of the material leached from the surface. The lowest horizon comprises the parent material representing the relatively unweathered, bedrock or glacial deposits from which the soil was derived. Soils in Ontario vary widely in the nature and thickness of these principal horizons.

As soils develop they evolve until they reach a slowly changing state. Their development is governed by five main factors: parent material, climate, organisms, topography, and time. The important characteristics of each factor are summarized from Fitzpatrick (1972) and Buol et al (1973).

Parent Material

Parent material is the initial state of the soil system (Jenny, 1941). It is composed of mineral material and/or organic matter. Most of the parent material in Ontario are glacial deposits or water-laid sediments (lacustrine). The nature of the parent material is largely responsible for the course of soil formation and the resulting chemical, mineralogical and physical composition of the soil. Many features of the soil are directly related to soil parent material, such as, mineral stability, particle-size, degree of sorting, formation of clay minerals and permeability.

Climate

Climate, through temperature and precipitation, is the principal factor governing the type and rate of soil formation. Temperature affects the weathering of soil minerals, the rate of biological activity within the soil, the decomposition of organic matter and water evaporation from the soil. Moisture entering the soil is derived mainly from precipitation. The differentiation of horizons is largely determined by the movement of moisture in soil and subsequent chemical reactions. Some moisture is retained by the soil but most is lost through drainage or evapotranspiration.

Organisms

Soil and vegetation develop concurrently. Vegetation adds organic matter or litter to the soil surface. Deposits of coniferous needles beneath the tree contribute to local soil acidity while deciduous foliage provides a more base-rich litter. In addition, vegetation cycles and exchanges nutrients with the soil, binds the soil to prevent erosion, and alters the initial form and structure of the soil.

Burrowing mammals and worms mix the soil . Microorganisms such as bacteria, actinomycetes, algae and fungi participate in elemental cycling, production of organic matter, and transportation of material throughout the soil.

Topography

The initial shape, slope and orientation of the landscape is governed by local topography. Drainage patterns, amount of moisture, soil distribution and thickness, and vegetation types are also affected by topography.

Time

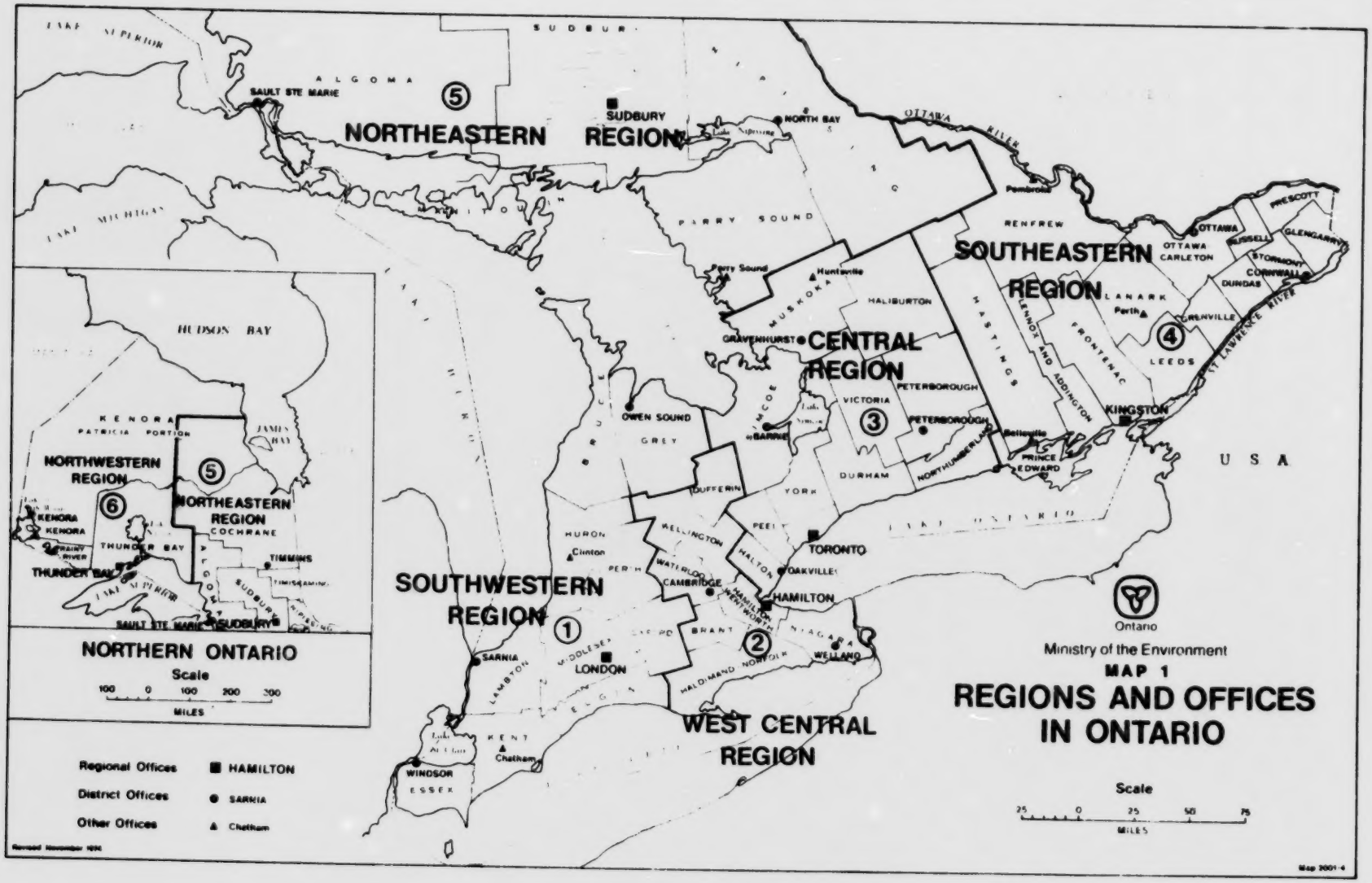
Soil formation is a very long and slow process. Surface horizons may take only a few hundred years to form, while those derived from weathering of primary minerals may take thousands of years to develop (Birkeland, 1974).

THE SOIL FORMING ENVIRONMENT IN ONTARIO

A brief description of the bedrock and glacial geology (Chapman and Putnam, 1976; Boissonneau, 1966, 1968 and Prest, 1976), vegetation regime (Hosie, 1979), climate (Brown, et al, 1980; Chapman and Thomas, 1968) and man's influence on the soil environment are included in the following section.

Maps depicting the major physiographic features for each of the Ministry's six regions of Ontario (Map 1) with the location of A.P.I.O.S. precipitation stations and baseline soil pits are provided. Detailed soil sampling was done at two A.P.I.O.S. sites at Dorset, in Central Region (Plastic Lake, Blue Chalk Lake) and near A.P.I.O.S. experimental vegetation plots in the Northeastern Region.

The soil analytical data appear in separate volumes of this Report. Volume 2 contains the analytical data for Southern Ontario while Volume 3 contains the analytical data for Northern Ontario. The baseline soil pit numbers given on the maps are incorporated as the last three digits of the location codes given in volumes 2 and 3. Readers should note the number and region of the site of interest, and then look through the appropriate data volume for the region and site number.


NORTHEASTERN REGION
SUDBURY
SOUTHEASTERN REGION
CENTRAL REGION
SOUTHWESTERN REGION
WEST CENTRAL REGION
NORTHWESTERN REGION
NORTHEASTERN REGION
COCHRANE
NORTHERN ONTARIO
Scale
MILES
Regional Offices
HAMILTON
District Offices
SARNIA
Other Offices
Chatham
Ontario
Ministry of the Environment
MAP 1
REGIONS AND OFFICES IN ONTARIO
Scale
MILES
USA

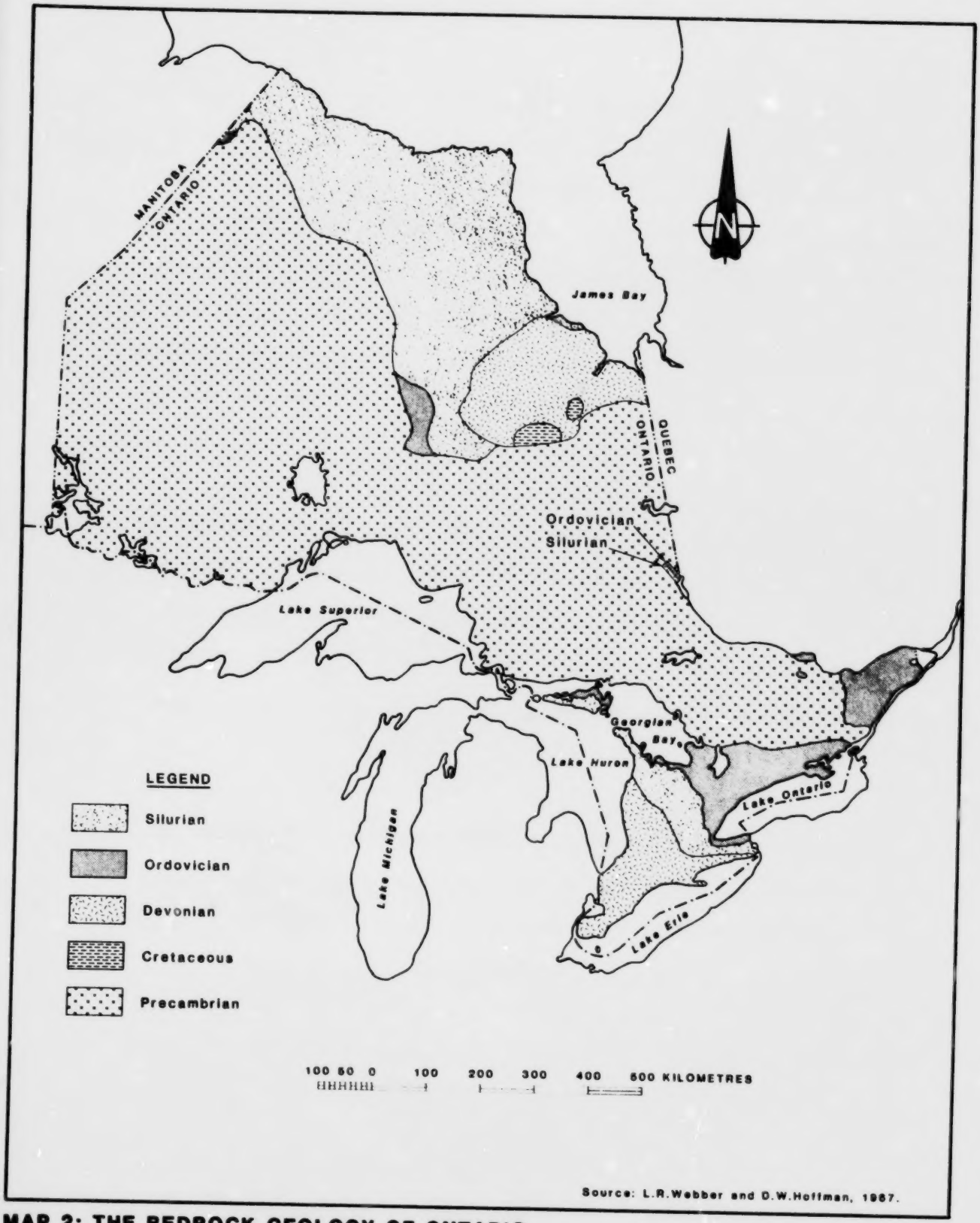
SOUTHWESTERN REGION

The Paleozoic bedrock in this region is flat-lying marine sedimentary shale and limestone of mainly Devonian age (Map 2). Some Silurian age dolomites and limestones occur in the north. The entire area was glaciated and thick deposits of till and lacustrine material were deposited over the bedrock and form the parent material of the present-day soils. Most of the material was probably transported only a short distance, since the majority of rock fragments produced exhibit characteristics similar to the local bedrock. The glacier left many different types of parent materials which produced a region with diverse local physiography (Map 3).

The till plain between Lake Erie and Lake St. Clair was smoothed by stages of Lake Erie during glaciation. Little relief produced poor soil drainage and waterlogged soils. The sand plains directly east were once deltas of the Thames River and glacial Lake Warren, another stage of Lake Erie. The sandy soils of these plains are acidic and very deep.

Along the eastern edge of Lake Huron is a clay plain over calcareous till. Interspersed with the clay plain are two beaches and wave-cut terraces with boulders, gravel bars and sand dunes. This strip of soils is poor for agriculture and much of the farmland has been abandoned.

Further inland from Lake Huron are calcareous till plains, moraines, spillways, some eskers and drumlin fields. Swamps and bogs occur in depressions.



MAP 2: THE BEDROCK GEOLOGY OF ONTARIO.

MAP 3 PHYSIOGRAPHY OF SOUTHWESTERN ONTARIO AND APIOS BASELINE SOIL PITS.

The Bruce Peninsula in the north of the region is generally a zone of glacial scour. Apart from some silt beds and a few drumlins, gravel bars and sand dunes, there is little overburden scattered over the gray dolomite. The soils in this area are very shallow and limestone bedrock is often exposed.

Large water bodies greatly modify both the temperature and amount of moisture in this region. This is the warmest area of Ontario and soils may be actively formed for approximately 6-8 months of the year. Precipitation is fairly uniform during the year. The amount of precipitation ranges from 77 cm in the southwest to 97 cm at the eastern edge of the region to the lee of the Niagara Escarpment. The mean duration of snow cover ranges from 50 days near Windsor to 124 days north of London.

The natural forest vegetation (Hosie, 1979) is deciduous in the extreme south. The rest of the region is in the Great Lakes-St. Lawrence mixed forest. Most of the land, has been deforested and used for agriculture at least once.

Pockets of soil that are potentially sensitive to acidic precipitation exist in this region. The acidic sand plains along Lake Erie are one example. Generally the clay soils of this region, although often slightly acidic in the top horizon, possess some degree of buffering due to their texture. The sand and gravel soils of the till plains may also be acidic at the surface but the parent material is usually calcareous and therefore strongly buffered. Ground-water runoff from these soils will likely not be acidic.

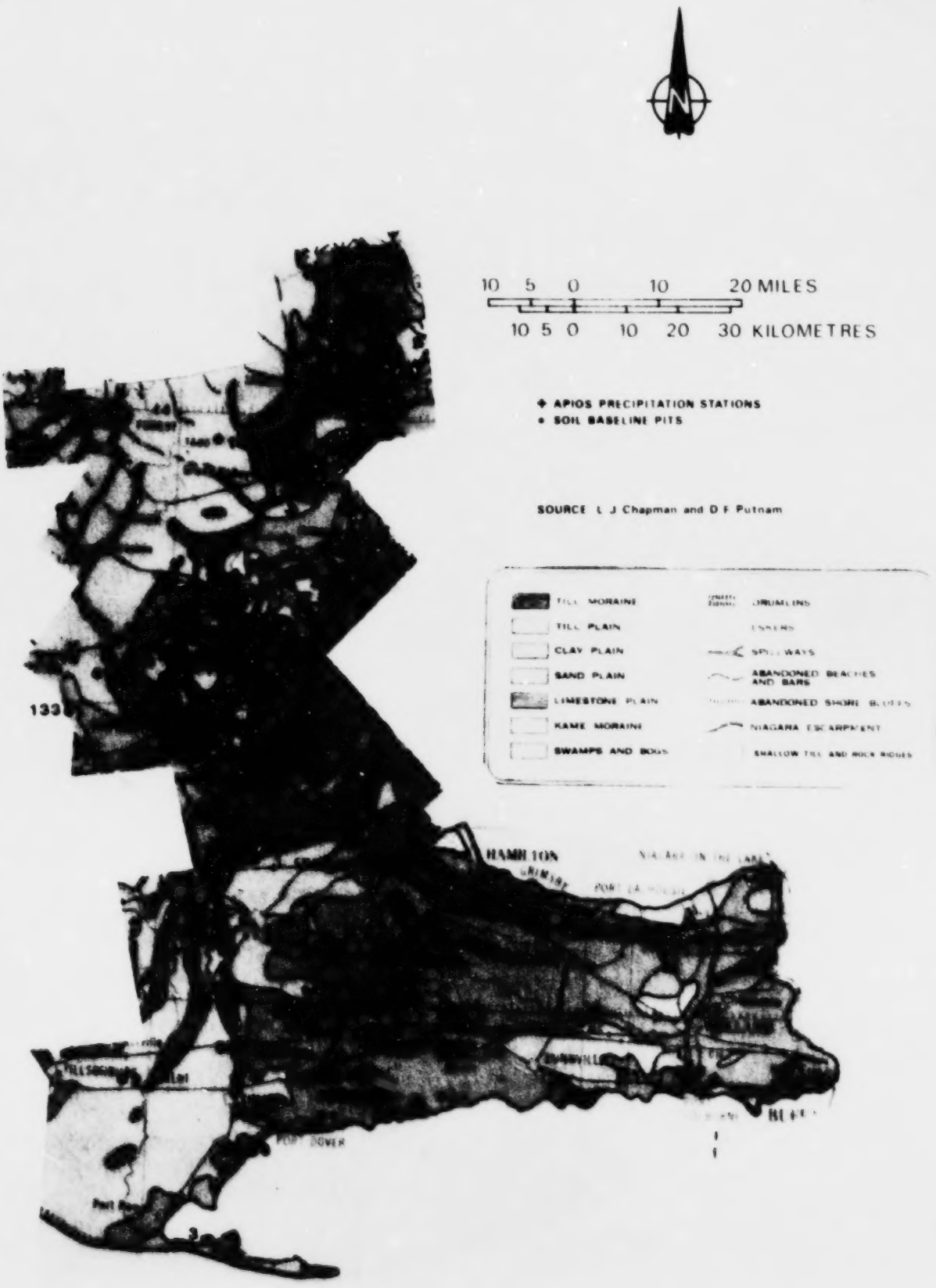
WEST CENTRAL REGION

Most of the region is underlain by Silurian dolomite and shales and Devonian limestones (Map 2). Rapidly weathering Ordovician shale borders the eastern perimeter.

The topsoil of the sand plain in the southwest is easily windblown and poorly buffered. It was once a delta formed by glacial Lakes Whittlesey and Warren. An extensive clay plain rich in silt lies between Lakes Ontario and Erie. These soils were originally deposited by the lakes then reworked by glaciers. Lacustrine beaches, wave-cut terraces, gravel bars and spits are associated with glacial Lake Iroquois between the escarpment and present Lake Ontario (Map 4).

Calcareous till covers the rest of the region to the north. The terrain often is hilly, with morainal deposits, eskers, gravel outwash plains, and sandy kames. Deep gravelly spillways run between fields of calcareous drumlins. Swamps and peatbogs are common in low lying areas throughout the entire region. Organic and waterlogged soils are associated with these wet areas.

The proximity of this area to the Great Lakes greatly modifies the climate. Frost-free days range from 180 in the south to 120 in the north. The average amount of precipitation is 82 cm for the region. The mean duration of snow cover ranges from 75 days in the south to 125 in the north.



MAP 4 PHYSIOGRAPHY OF WEST CENTRAL ONTARIO AND APIOS BASELINE SOIL PITS.

The natural forest vegetation (Hosie, 1979) is deciduous in the south bordering Lake Erie and the western tip of Lake Ontario. The rest of the region is covered by a Great Lakes - St. Lawrence mixed forest. The region was settled early and deforested. More recently, there has been rapid urban expansion. As fields are now more prominent than forests, thicker Ah horizons might be expected in the soil.

Although the till at depth is mostly calcareous, the soils which develop on them are often acidic at the surface. In time, acidic precipitation could intensify the acidic nature of the soils and lower the level of the calcareous horizon. The deltaic sands in the south along Lake Erie are already quite susceptible to the loss of plant nutrients due to acidic precipitation. These soils have little organic matter and little natural buffering capacity.

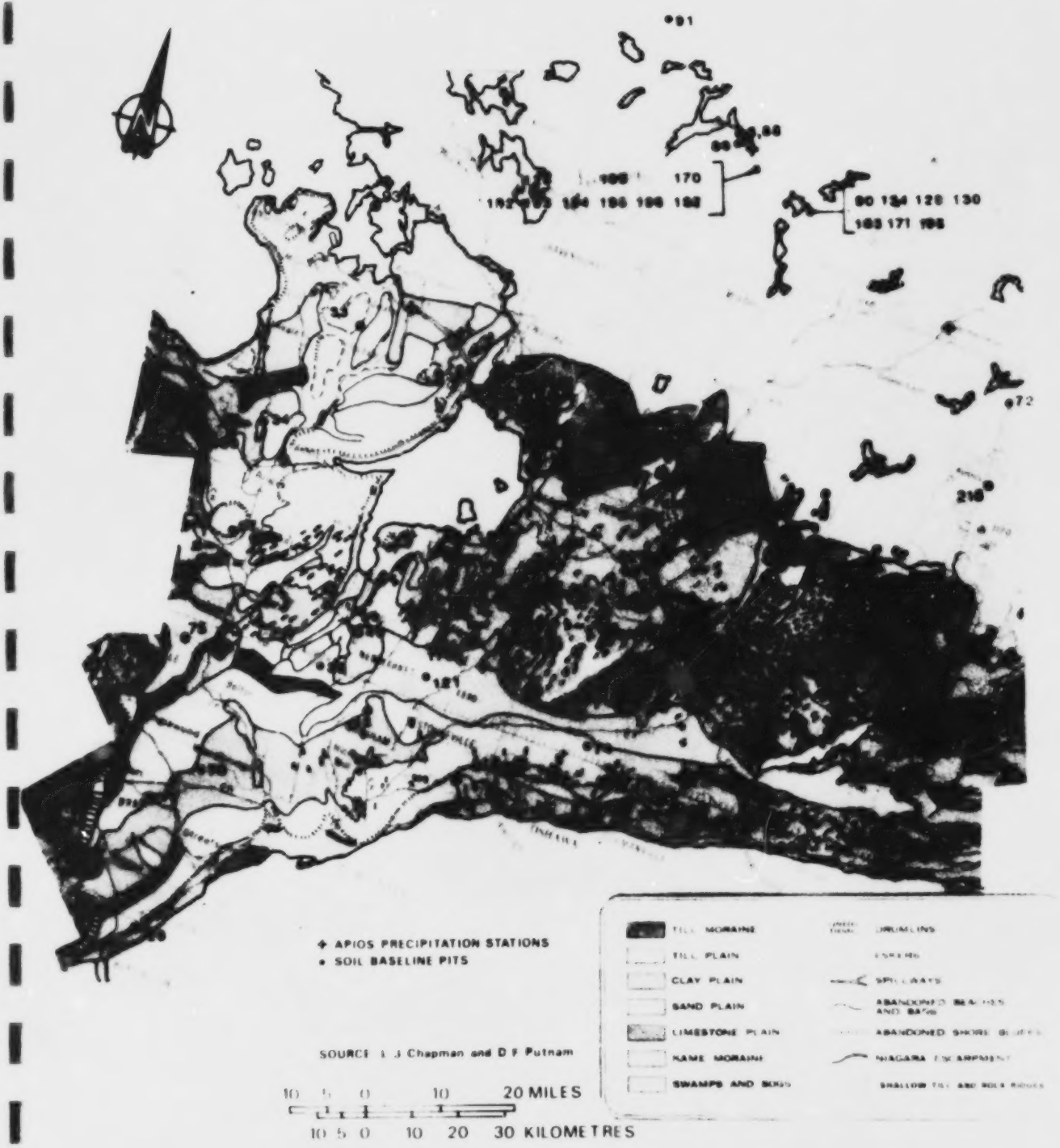
CENTRAL REGION

Silurian shale and limestone border this region to the west. Ordovician shale and limestone bedrock parallel the Silurian rock to the east. Ordovician limestones underlie the majority of the region to the east and north. All of Haliburton, Muskoka and the northern portions of Victoria and Peterborough counties are comprised of Precambrian bedrock (Canadian Shield) (Map 2). It is not uncommon to find large areas of exposed bedrock in this zone.

A narrow, gravelly calcareous shoreline of glacial Lake Iroquois runs parallel to Lake Ontario. Cliffs, beaches, bars and boulder pavements typify the area (Map 5).

A partially drumlinized till plain exists to the north. The till and its associated moraines, drumlins, eskers, and kames are subject to erosion by gullying. Small calcareous clay plains in the area are remnants of temporary glacial ponds or lakes.

North of the till plain are end moraines or kames. The land is subject to erosion. Aeolian (wind-blown) material occurs in pockets throughout the area. Along the northern edge of these end moraines are deep deposits of stratified (varved) lacustrine sediments. The hilly relief of the drumlinized till plain under these lacustrine clays and silts is often evident. There are thousands of highly calcareous drumlins and some gravelly eskers in this till plain near Peterborough. Clay may be found between the drumlins which were likely flooded by glacial lakes.



MAP 5 PHYSIOGRAPHY OF CENTRAL ONTARIO AND APIOS BASELINE SOIL PITS.

Pockets of deltaic sands and bogs are quite common between Lake Simcoe and Georgian Bay. The till here is formed more from granitic bedrock than limestone. These soils vary from mildly acidic and therefore potentially sensitive to acidic precipitation, to calcareous.

The Shield area, in the northern part of the region, comprises shallow, sandy till and rock outcrops. Noncalcareous sand deposits from Lake Algonquin (Lake Huron, Georgian Bay) are found in this area. There are a few clay plains which are remnants of inland lakes or ponds. Spillways and some moraines are also evident. These noncalcareous sands provide little buffering capacity.

The proximity of this region to Lake Ontario in the south and Lake Huron to the northwest has a moderating effect on the climate. Annual precipitation is fairly uniform, 81-86 cm across the region. Even so, the clay soils are often deficient of moisture in the summer. Along the Lake Ontario shoreline frost-free periods are 1 to 2 months longer (180 days) than inland (120 days). Colder winters and later springs in the north can inhibit soil development.

The region has been so heavily urbanized in the south that little indigenous forest vegetation is left. A narrow band of deciduous forest (mainly birch, maple, black walnut, hickory and oak) occurs along Lake Ontario. The rest of the region is covered by the Great Lakes - St. Lawrence Forest, featuring red pine, eastern white pine, eastern hemlock, yellow birch, maple and oak (Hosie, 1979).

Urbanization, industrial expansion and agriculture have disturbed the natural development of soils in this region. Generally, however, in the till

covered areas of the south the soil parent material is calcareous. This calcareous material provides considerable buffering at depth against acidic precipitation inputs. Water moving from the soil to aquatic systems should be mostly alkaline. Carbonate has been found to leach out of the upper horizons of the soils in a cool humid climate. In time, the soil may become acidic. The leaching of cations may be a natural phenomenon but could also be accentuated as rain pH decreases.

The sandy, often thin soil deposits on the Canadian Shield have the potential to be affected by acidic precipitation with possible adverse effects on surrounding aquatic and forest ecosystems.

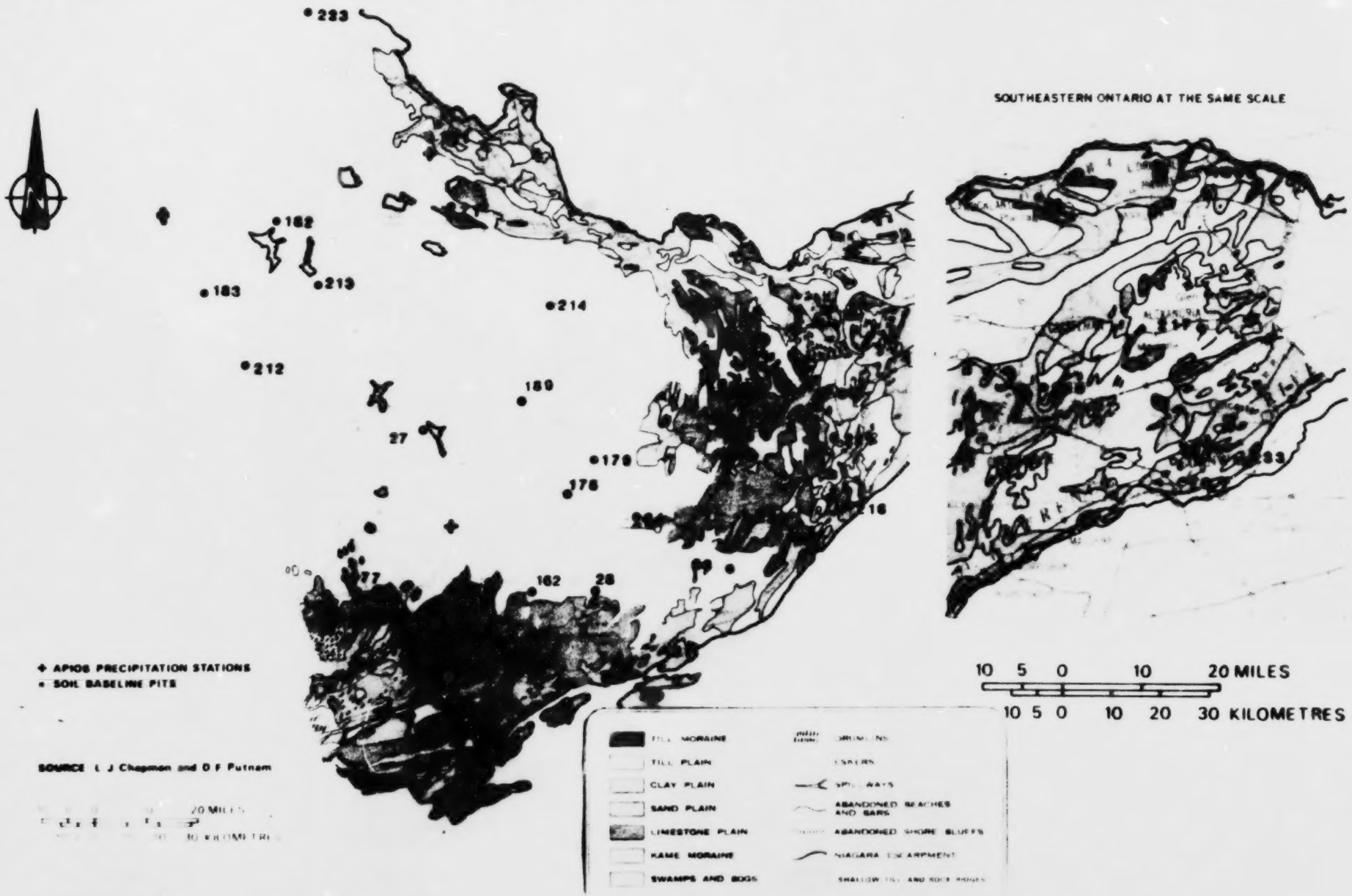
SOUTHEASTERN REGION

The bedrock in the southwest of this region is Ordovician limestone while Precambrian Shield predominates to the north and east. Ordovician sandstones and dolomite occur farther east. The remainder of the region is underlain by different ages of Ordovician shales and limestones (Map 2).

There are areas of active sand dunes and shallow, stoney till in the south (Map 6). Inland, a limestone plain continues to the north and east bordering Lake Ontario. The land is rough and stoney with both limestone and Precambrian Shield rock fragments in the moraines. There are sand and gravel-rich spillways and eskers and a drumlin field. Numerous clay plains occur interspersed over the limestone plain with some sand and gravel shorelines. The slightly calcareous clay plains were formed from freshwater glacial lakes and/or from the marine water of the Champlain Sea. According to Fairbridges (1968) the Champlain Sea formed when the glacier receded to the north of Lake Iroquois and admitted water from the Atlantic Ocean. The sea covered approximately 530,000 sq km in Ontario and Quebec.

The hilly northern portions of the region have thin, sandy, soils with numerous Precambrian rock outcrops. These soils are predominantly acidic in nature. Spillways and sand plains, which are remnants of glacial Lake Iroquois, as well as bogs and swamps, are scattered throughout this part of the Shield.

East of the limestone plain and south of the Shield, the topography is very hilly. Hills of Precambrian Shield rock protrude out of clay left from the Champlain Sea. The clay is slightly calcareous. Bogs are scattered throughout



MAP 6 PHYSIOGRAPHY OF SOUTHEASTERN ONTARIO AND APIOS BASELINE SOIL PITS.

the area. Soils are acidic where drainage is good. Waterlogged soils exist in poorly drained areas.

There is an area of level glacial-fluvial sands to the east of Leeds County. The sands were spread out over bedrock and clay by the wave action of the Champlain Sea. As well as beach ridges and sand dunes, some glacial moraines are still evident. This flat area is poorly drained and there are many bogs. The soils are usually gleyed. Although the parent material has some carbonates, these poorly developed soils are mainly acidic.

A low plain bordering the St. Lawrence River to the east of the sands contains drumlins and drumlinoid features. This plain was covered by the Champlain Sea and there are still some clay flats and sand and gravel beaches remaining. North of the till plain is a low, flat, clay plain with the till protruding through in spots. This area is poorly drained and the soils are gleyed.

A large level sandplain to the north was once a delta built by the Ottawa River. This poorly drained soil is 5-10 meters deep and low in carbonates. Stoney hills of calcareous till protrude through the sand intermittently. The gleyed soils of this area are generally quite acidic. Bogs are also common in this poorly drained area.

There is a wide range in frost free days, in response to the influence of Lake Ontario in the south and increasing altitude to the north. There are 160 frost free days in the south, compared to only 120 in the north of the region. Precipitation amounts vary as well, with an average of 86 cm in the south and 66 cm in the north, near Pembroke.

The Great Lakes-St. Lawrence Forest region covers the entire region. The principal tree species are red pine, eastern white pine, eastern hemlock, yellow birch, maple and oak. The region was settled in the late 1700's in the south and mid-1800's in the north. Most of the forest was removed for lumber and to prepare the area for agriculture.

The bedrock and parent material in the south is slightly calcareous. However, the cool, humid climate in conjunction with coniferous vegetation moves the soil towards natural acidic conditions by the leaching of bases. Although runoff may be acidic at the soil surface, it will likely be buffered, prior to reaching streams and lakes, where the bedrock and/or parent material is calcareous. The acidity at the soil surface may be altered by acidic precipitation inputs and have an effect on vegetation. The sand plain in the east of the region is not calcareous and both aquatic and vegetation ecosystems could be affected by acid precipitation where the underlying limestone bedrock is not in contact with runoff. The soils of the Shield area are shallow, naturally acidic, and the bedrock offers very little buffering. Therefore, both aquatic and forest ecosystems are potentially sensitive to acidic inputs on the Shield.

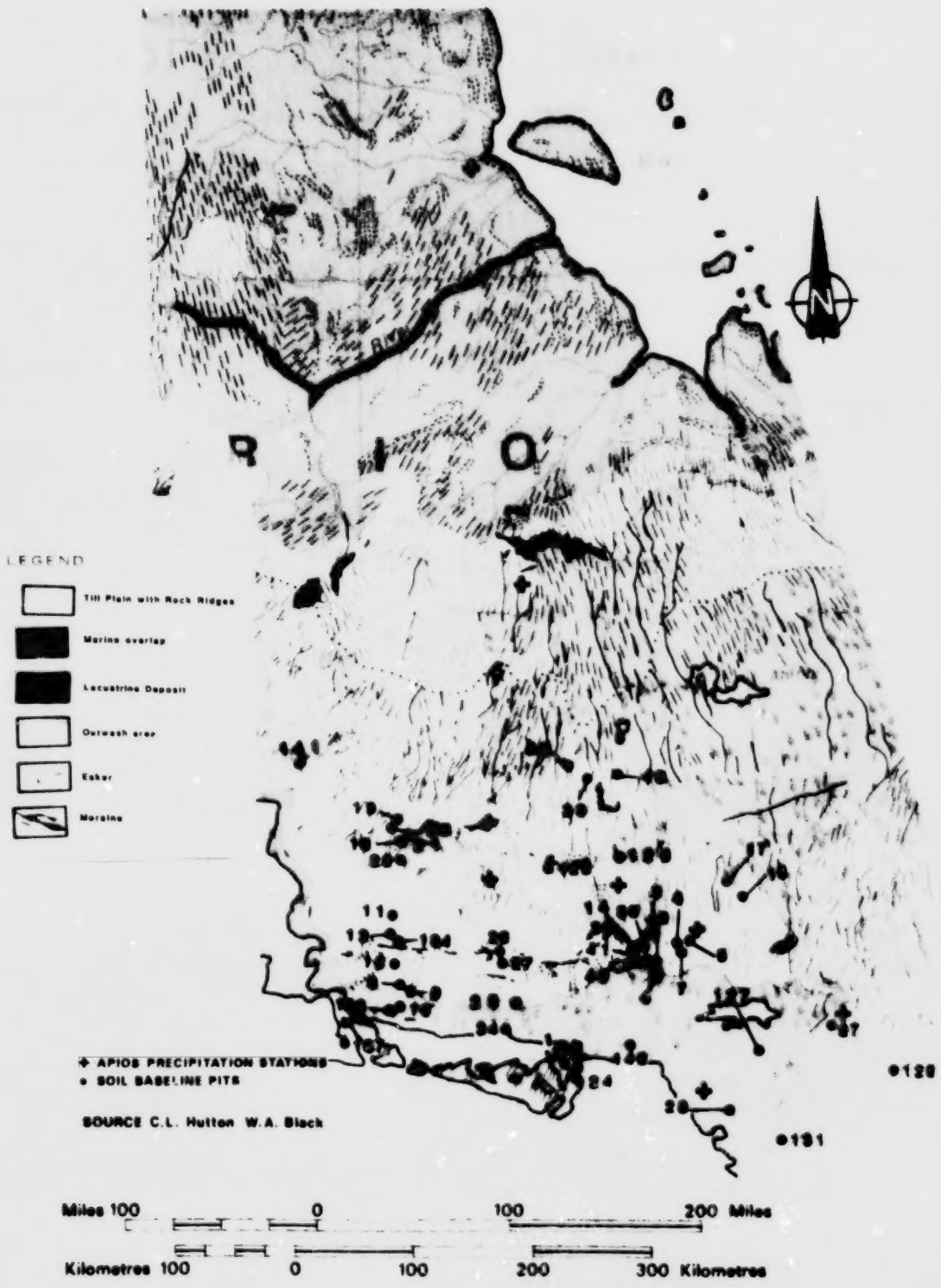
NORTHEASTERN REGION

In many parts of Northeastern Ontario bedrock is either exposed or is close to the surface. The area consists mainly of Precambrian igneous and metamorphic bedrock. Precambrian sedimentary deposits predominate in the eastern part of the region and along the north shore of Lake Huron. Volcanic rocks are also common throughout this area. Ordovician and Silurian limestones are found near James Bay. These limestones have had considerable influence on the soil chemistry of Northeastern Ontario. Limestone bedrock is also present in the New Liskeard area and on Manitoulin Island (Map 2).

According to Boissoneau (1966, 1968), a glacial lake (Lake Algonquin) was formed in the upper Great Lakes basin more than 11,000 years ago. Glacial meltwaters carrying suspended material flowed into this lake and these materials were deposited as the clay plains and sand deltas found in the southern part of the Northeastern region (Map 7).

A sandy glacial till was deposited in those areas not influenced by glacial lakes. However, as the ice front retreated, other glacial lakes were formed. The largest of these is known as Lake Barlow-Ojibway. Carbonate-rich clays and silts were deposited in this lake to form the area now known as the Northern Clay Belt. Sands were deposited in smaller lakes near Chapleau and to the east of Gogama.

In the southern part of notheastern Ontario, acidic soils have developed on the large areas of sandy tills and lacustrine sands. Except for organic soils, many of the soils in areas of lacustrine clays and silts contain substantial amounts of carbonates.



MAP 7 PHYSIOGRAPHY OF NORTHEASTERN ONTARIO AND APIOS BASELINE SOIL PITS.

The climate of northeastern Ontario is modified by both the Great Lakes and James Bay. The mean annual precipitation varies from 65 cm in the north, to 86 cm in the south and mean annual temperature, from $+1^{o}C$ to $+4^{o}C$.

The Great Lakes-St. Lawrence forest type predominates in the area bordering the Great Lakes. Red pine, eastern white pine, eastern hemlock, yellow birch, maple and oak are all found in this area. The Boreal forest covers the rest of the region. White spruce, black spruce, balsam fir, jack pine, white birch and trembling aspen dominate the middle of the region while white spruce, black spruce, tamarack and large unforested areas occur in the extreme north.

Although most of the soil types common to Ontario are represented in this region, the majority of the soils are sandy and acidic. Clay soils are associated with glacial lake beds such as the Northern Clay Belt. Sandy soils are more sensitive to acidic precipitation than those which are clay-rich.

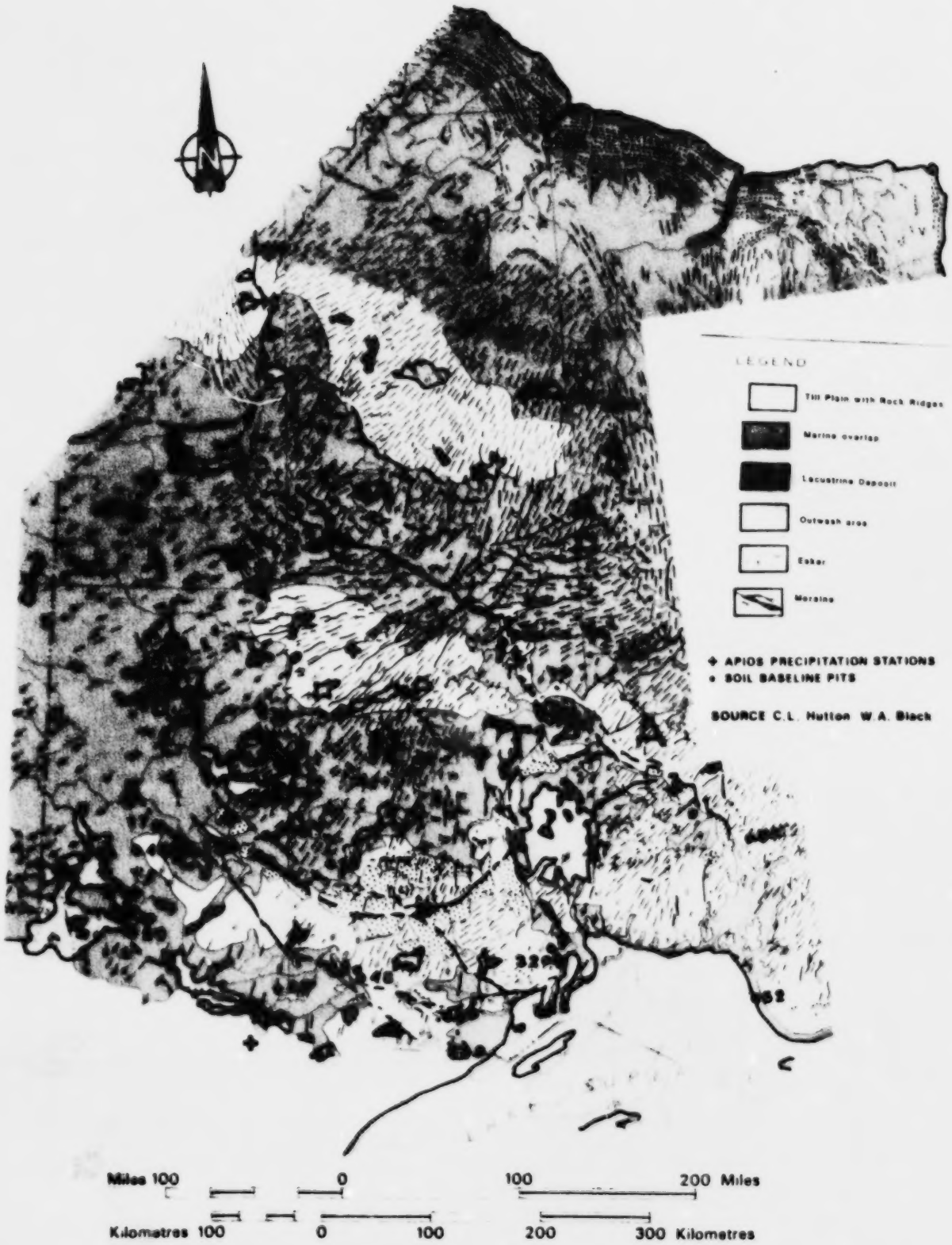
NORTHWESTERN ONTARIO

The Precambrian Shield is the major geological unit in the region and is made up of mostly igneous and metamorphic bedrock. Bedrock formations of Silurian and Ordovician limestones, sandstones, siltstones and shales occur in a block bordering Hudson Bay (Map 2).These rocks are generally high in carbonates and therefore have high buffering capacities.

The ice began retreating from southern parts of this region about 12,500^{+} years ago and some ice may have been present in northern areas as late as 5,000^{+} years ago (Prest, 1976). The entire area, therefore, has been much affected by glaciation and the effects are obvious (Map 8). These include exposed bedrock and other areas covered by glacial till and various water lain materials.

The area adjacent to Hudson Bay was scoured and abraded by the glacier and depressed by the weight of the ice. When the ice sheets receded this area was inundated by the Tyrell Sea for several thousand years. This has resulted in a mostly flat plain covered with marine deposits of clay, silt, sand and gravel. Other features include moraines, eskers, and even raised beaches as far as 270 km inland. Many of these glacial and marine deposits are derived from the sedimentary bedrocks of this area and have a high cation exchange capacity.

Once the glacier began to recede, large temporary freshwater lakes were formed. These glacier-fed lakes were present in this region for a period of about 4,000 years, from about 12,000 to 8,000 years ago. Lake Agassiz was formed in the west, and Duluth-Minong-Houghton Lakes in the Superior Lake



MAP 8 PHYSIOGRAPHY OF NORTHWESTERN ONTARIO AND APIOS BASELINE SOIL PITS.

Basin in the centre. These lakes resulted in various features such as raised beaches, sand and gravel ridges and wave-cut bluffs. More importantly, however, are the large lacustrine deposits of sand, silt and clay that have resulted in flat areas sometimes suitable for agriculture (at Thunder Bay, Dryden, and Fort Frances) and which also produced some of the better forest soils. Extensive aeolian (wind blown) deposits of fine sands and silts also are present in areas such as Lac des Mille Lac, northwest of Thunder Bay. Considerable areas of organic peat soils have been deposited in poorly drained areas of the Shield.

The climate of the Northwestern region is continental. It is modified in the north by Hudson Bay and in the south by Lake Superior. In the coldest month, January, the temperature isopleths run from west to east and the mean daily temperature varies from -25°C in the north to -13°C in the south. In July, the warmest month, the trend is not north to south, but northeast to southwest, and in the northeast the mean is 12°C increasing to 19°C in the southwest. The area has cold winters and cool to warm summers. Precipitation patterns are more complex, with the lowest precipitation in the northwest (32 cm) and the highest in the southeast (90 cm). Most precipitation occurs as rain, but about one-third to one-half may fall as snow. The lowest mean maximum snow depths, 32 cm, are in the west, while the greatest, 76 cm, are in the east.

There is a gradient of vegetation in the region from almost treeless, tundra-like vegetation on the shores of Hudson Bay to a well developed, mixed conifer-deciduous forest in the south. Soils, while very important in the local distribution of plants, are seen as less important in plant distribution than climate on a larger scale. In the south of this region the Great Lakes-St. Lawrence Forest association is most prominent. It contains a number of

hardwood tree species not found in the Boreal forest such as sugar maple, Manitoba maple, bur oak and much more white elm, black ash and red maple than are found to the north. The Boreal conifer forest predominates in the centre of this region. This forest is a dynamic successional forest resulting from forest fires, which occur about every seventy to one hundred years, and more recently from logging. Various patterns develop after fires and logging, which produce an enormous mosaic of different-aged stands with different species compositions. Generally, though, black spruce is the dominant tree on thin acid soils of upland areas and also on inorganic soils of poorly-drained lowlands. Jack pine is widespread on well-drained gravel and sandy acid soils. On sites of undifferentiated glacial till, white spruce, balsam fir, white birch and trembling aspen are common tree species. A number of shrubs, herbs, bryophytes, and lichens are also common constituents of these forests. Bordering Hudson Bay is a forest-tundra section with patches of stunted trees, usually black or white spruce, and open tundra-like areas of lichen heath, fens and bogs. In addition, there are huge areas of swamp, fen, bog and muskeg. On better drained sites trees such as spruces, balsam fir, trembling aspen, balsam poplar, and white birch occur.

The soils in the northern part of the region, around Hudson Bay, are mostly organic or waterlogged. In the Canadian Shield there are many rock areas devoid of soil. Most of the region, however, contains acidic sandy soils with clay-rich soils in the old glacial lake beds. The thin, sandy soils are more sensitive to acidic precipitation than the clay-rich, moderately buffered soils.

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Volume

2

ISBN 0-7729-0458-8(v.2)

ONTARIO SOIL BASELINE SURVEY
- ANALYTICAL DATA 1980-1981 -

VOLUME 2
ANALYTICAL DATA FOR SOUTHERN ONTARIO

TERRESTRIAL EFFECTS PROGRAM
ACIDIC PRECIPITATION IN ONTARIO STUDY

M.A. Griffith, Air Resources Branch
T. Spires, Northern Terrestrial Consultants
P. Barclay, Lakehead University

ONTARIO MINISTRY OF THE ENVIRONMENT
NOVEMBER, 1984

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ACKNOWLEDGEMENTS

S.N. Linzon, Chairman of the A.P.I.O.S. Terrestrial Effects Working Group, originated the concept of the soil baseline program and has guided its development.

During 1980 and 1981, the collection of soil samples throughout Ontario involved a number of people. This work was accomplished under the co-ordination of M.A. Griffith (Southern Ontario), T. Spires (Northeastern Region) and W. Carswell (Northwestern Region). The development of an A.P.I.O.S. soils' laboratory and the chemical analyses of all soil samples were undertaken by the Laboratory Services Branch under the direction of A. Neary. The tables that form the bulk of Volumes 2 and 3 were typed by 2001 Word Processing Services .

Volume 1 of this report was written by M. A. Griffith, A.P.I.O.S., Soil Specialist, Phytotoxicology Section, Air Resources Branch. T. Spires of Northern Terrestrial Consultants and P. Barclay, Lakehead University provided most of the information regarding Northeastern and Northwestern Ontario, respectively. All members of the Terrestrial Effects Working Group's Technical Sub-committee assisted in various editing stages of the report, principally D. Griffin, W. McIlveen, D. Dimma, A. Neary and T. Spires.

III
SUMMARY

The soil baseline program began in 1980 and is part of the Ministry of Environment's Acidic Precipitation in Ontario Study (A.P.I.O.S.). The major objectives of the soil baseline program and methods used to sample soils are provided in Volume 1. In addition, the glacial history of Ontario, some theories of soil development, and the effect of acidic precipitation on soils are briefly outlined in Volume 1. Over 300 locations were sampled in 1980 and 1981 throughout the province. A reliable, current and uniform data base for soils across Ontario now exists and is presented in Volumes 2 (Analytical Data for Southern Ontario) and 3 (Analytical Data for Northern Ontario) of this report. This data base is being used by A.P.I.O.S. researchers to produce a map which will show the relative sensitivities of Ontario soils to acidic deposition. Resampling baseline soil profiles over an extended period will also provide a means of monitoring trends in soil chemistry due to environmental stress.

This report is mainly a presentation of field and laboratory soil information (Volumes 2 and 3). Each baseline site has been given a 6 digit location code number. Within each region, sites are presented in ascending order based on location code number. The numbers which appear on Maps 3 to 8 in Volume 1 correspond to the last 3 digits of the location code. Soil samples were analyzed at the Ministry's central laboratory in Toronto for pH, texture, extractable iron, aluminum and manganese, inorganic and organic carbon, major cations (NaCl exchangeable), CEC (sum of cations measured), anions, and trace metals (HNO_3 - $HClO_4$ extractable). Further description of the analytical methods can be found in Volume 1 and in the "Procedures Manual Terrestrial Effects, Acid Precipitation in Ontario Study" (A.P.I.O.S.) Report No. 007/83 Ontario Ministry of the Environment. Data are reported to two significant figures. For the 14000, 17000 and 18000 series samples, organic carbon values were rounded to the nearest percent. This has since changed to provide better data at low levels.

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SW - Southwestern Region
WC - West-Central Region
C - Central
SE - Southeastern Region

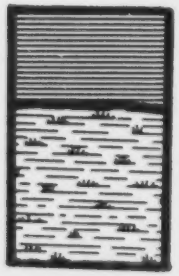
SOIL BASELINE ANALYTICAL DATA, 1980-1981

SOUTHWESTERN REGION

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Maidstone Conservation Area

Location Code: 1001014

UTM: 17T 352350 4674700

Landform: clay plain/till plain

Slope: level

Date: 80/06/03

Vegetation: red oak, ash, white oak, red maple

Comments: mottled at depth (7.5YR 5/6) water seeping in at 40 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9091	surface	0-20	5YR 3/1	24	28	48	6.9	6.4	3.4	2.9	14			670	
9093	surface	0-20	5YR 3/1	24	30	46	6.9	6.3	3.7	3.8	14			920	
9090	mineral	20-40	2.5YR 6/0	21	29	50	7.4	7.1	0.90	1.1	15			260	
9092	mineral	20-40	2.5YR 6/0	19	30	51	7.6	7.1	0.90	1.3	12			350	

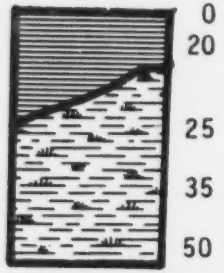
SOIL PROFILE INFORMATION (cont'd.)

Site: Maidstone Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9091	surface	3500	520	95		22	0.16	0.080	0.0026	0.93	0.082	0.012	<1.0	100	49	33	17
9093	surface	3500	510	140		22	0.16	0.10	0.0030	0.93	0.10	0.013	<1.0	110	42	35	20
9090	mineral	1800	400	120		13	0.090	0.050	0.0021	1.2	0.090	0.015	1.0	98	46	34	11
9092	mineral	2800	570	95		19	0.11	0.070	0.0020	1.3	0.090	0.019	1.0	100	39	36	12

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Canard River Conservation Area

Location Code: 1001016

UTM: 17T 342850 4666550

Landform: clay plain/till plain

Slope: level

Date: 80/06/04

Vegetation: sumac, hawthorn

Comments: mottles at 30 cm (5YR 5/6)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9104	surface	0-25	2.5YR 3/2	28	33	39	7.9	7.4	3.3	2.6	18			500	
9103	mineral	25-35	10YR 5/1	15	26	58	7.1	6.5	0.65	0.76	16			200	
9102	mineral	50+	10YR 5/1	19	25	56	7.1	6.7	0.57	0.73	21			270	
9107	surface	0-20	2.5YR 3/2	31	30	39	7.8	7.3	3.5	2.7	21			440	
9106	mineral	25-35	10YR 5/1	26	24	50	7.1	6.6	0.90	1.1	20			240	
9105	mineral	35-50	10YR 5/1	21	23	57	7.2	6.6	0.57	0.87	25			310	

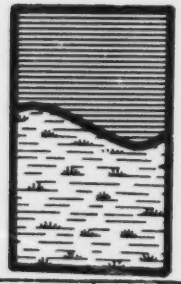
SOIL PROFILE INFORMATION (cont'd.)

Site: Canard River Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9104	surface	3100	1100	170		25	0.12	0.050	0.0069	1.5	0.13	0.051	5.0	86	27	22	24
9103	mineral	2300	270	120		14	0.18	0.080	0.0090	1.7	0.20	0.11	<1.0	91	28	35	13
9102	mineral	1900	680	95		15	0.13	0.040	0.0040	1.7	0.19	0.029	<1.0	83	39	43	12
9107	surface	3300	270	200		19	0.080	0.030	0.0050	1.3	0.12	0.051	2.0	74	24	19	25
9106	mineral	1900	330	74		12	0.14	0.050	0.0037	1.4	0.18	0.023	<1.0	79	36	31	14
9105	mineral	1700	33	95		9.2	0.15	0.060	0.0015	1.5	0.16	0.025	<1.0	84	32	43	13

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

Site: Devonwood Conservation Area

Location Code: 1001017

UTM: 17T 336700 4680600

Landform: Clay plain

Slope: level

Date: 80/06/04

Vegetation: poison ivy, grass, maple, oak

Comments: mottles in pit, (7.5YR 5/6), water at 35 cm, beside Windsor Airport

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9108	surface	0-20	10YR 3/2	33	33	33	8.1	7.6	2.5	2.1	21			410	
9109	surface	20-35	10YR 3/2	36	27	37	7.9	7.4	2.8	2.5	33			580	
9110	mineral	35-50	2.5YR 6/2	34	26	40	7.7	7.3	0.84	0.91	42			240	
9112	surface	0-20	10YR 3/2	16	37	47	7.8	7.3	3.6	3.7	27			1020	
9111	surface	20-35	10YR 3/2	37	25	37	7.6	6.2	3.3	2.8	43			620	

SOIL PROFILE INFORMATION (cont'd.)

Site: Devonwood Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9108	surface	2400	380	180		16	0.070	0.040	0.0065	0.94	0.090	0.022	14	70	34	23	18
9109	surface	3000	600	110		20	0.10	0.10	0.0016	0.70	0.11	0.0040	2.0	76	30	22	14
9110	mineral	1700	370	80		12	0.060	0.040	0.0029	1.1	0.11	0.022	2.0	75	31	27	12
9112	surface	3100	540	270		21	0.090	0.050	0.0041	0.75	0.11	0.010	2.0	87	38	23	21
9111	surface	3200	640	110		21	0.11	0.090	0.00090	0.71	0.11	0.0040	1.0	64	30	20	15

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

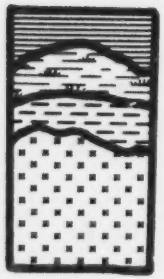
surface 0

mineral 20

mineral 30

mineral 40

55



Site: Lorne C. Henderson Conservation Area

Date: 80/06/05

Location Code: 1001019

UTM: 17T 403000 4747900

Landform: clay plain/till plain

Slope: level

Vegetation: hawthorn, grass

Comments: mottles at 30 cm (10YR 5/6), earthworms in top 30 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9138	surface	0-20	10YR 4/2	12	48	40	6.9	6.4	2.9	2.2	12			340	
9139	surface	0-20	10YR 4/2	12	46	42	7.2	6.5	3.0	2.4	14			490	
9136	mineral	22-30	10YR 4/1	5.0	41	54	7.3	6.8	0.87	1.2	9.8			320	
9137	mineral	22-30	10YR 4/1	3.0	31	66	7.3	7.0	0.68	0.80	10			290	
9134	mineral	30-40	10YR 5/3	3.0	31	66	7.7	7.3	0.70	0.90	17			610	
9135	mineral	30-40	10YR 5/3	2.0	27	71	7.7	7.4	0.68	0.85	15			480	
9132	mineral	40-55	10YR 6/3	4.0	32	64	8.3	7.9	0.53	0.64	23			580	
9133	mineral	40-55	10YR 6/3	2.0	32	66	8.3	7.8	0.44	0.66	25			600	

SOIL PROFILE INFORMATION (cont'd.)

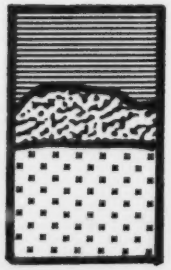
Site: Lorne C. Henderson Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9138	surface	3000	680	85		20	0.11	0.060	0.0099	1.2	0.18	0.074	<1.0	79	34	27	18
9139	surface	3300	730	110		23	0.10	0.060	0.0089	1.2	0.17	0.074	<1.0	82	36	28	19
9136	mineral	2400	1000	85		21	0.090	0.010	0.0034	1.4	0.21	0.053	<1.0	89	57	46	12
9137	mineral	2600	1100	85		22	0.090	0.010	0.0024	1.4	0.21	0.045	1.0	81	44	44	11
9134	mineral	2500	1300	96		23	0.060	0.010	0.0024	1.4	0.21	0.043	2.0	93	61	56	11
9135	mineral	2600	1300	85		24	0.070	0.010	0.0031	1.4	0.22	0.043	2.0	110	88	63	12
9132	mineral	2200	1000	74		20	0.020	<0.0020	0.0021	1.1	0.15	0.044	12	85	59	51	10
9133	mineral	2400	1100	110		21	0.010	<0.0020	0.0026	1.2	0.16	0.040	13	86	70	52	11

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Pinery Provincial Park

Location Code: 1001035

UTM: 17T 429100 4787100

Landform: sand plain/beach

Slope: very gentle slopes

Date. 80/06/05

Parent Material: aeolian sand

Vegetation: oak, pine, grass, ferns

Comments: inland sand dunes

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9146	surface	0-15	5YR 3/1	91	2.0	7.0	7.9	7.6	1.1	0.73	3.5			260	
9147	surface	0-15	5YR 3/1	90	3.0	6.0	8.1	7.4	1.1	1.0	3.7			310	
9144	mineral	15-25	10YR 4/3	88	2.0	10	8.2	7.8	0.47	0.44	3.1			250	
9145	mineral	15-25	10YR 4/3	91	1.0	8.0	8.0	7.7	0.47	0.36	2.5			240	
9142	mineral	25-60	2.5YR 6/2	91	1.0	8.0	8.3	7.7	0.090	0.23	0.60			140	
9143	mineral	25-60	2.5YR 6/2	91	1.0	7.0	8.2	7.8	0.070	0.18	1.9			210	
9140	mineral	60-80	2.5YR 6/2	90	2.0	8.0	8.2	7.7	0.090	0.13	1.0			130	
9141	mineral	60-80	2.5YR 6/2	91	2.0	7.0	8.2	7.6	0.050	0.15	0.80			150	

SOIL PROFILE INFORMATION (cont'd.)

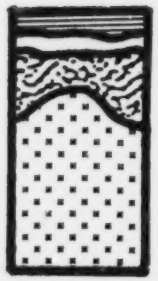
Site: Pinery Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9146	surface	2100	150	32		12	0.010	0.010	0.0052	0.15	0.020	0.0090	13	19	15	3.0	5.5
9147	surface	1800	123	32		10	0.010	<0.0020	0.0042	0.15	0.020	0.0090	11	19	19	3.0	6.1
9144	mineral	730	43	11		4.0	0.010	0.020	0.00070	0.14	0.020	0.0050	22	6.7	20	3.4	<3.0
9145	mineral	660	28	11		4.0	0.010	0.020	0.0013	0.13	0.020	0.0050	21	7.7	23	3.0	<3.0
9142	mineral	300	11	5.2		1.6	0.010	<0.0020	0.00070	0.10	0.020	0.0040	18	4.8	17	2.9	<3.0
9143	mineral	300	8.5	5.2		1.7	0.010	<0.0020	0.0010	0.10	0.010	0.0040	17	5.8	23	3.0	<3.0
9140	mineral	200	8.5	5.2		1.2	0.010	0.010	0.0014	0.14	0.030	0.0050	17	10	33	5.1	<3.0
9141	mineral	200	8.5	5.2		1.2	0.010	<0.0020	0.00060	0.10	0.020	0.0040	20	9.3	32	3.4	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth(cm)



Site: MacGregor Point Provincial Park

Location Code: 1001044

UTM: 17T 464100 4917900

Landform: sand plain/beach shoreline

Slope: nearly level

Date: 80/07/02

Vegetation: oak, maple

Comments: rocks at 45-80 cm, no clay skins

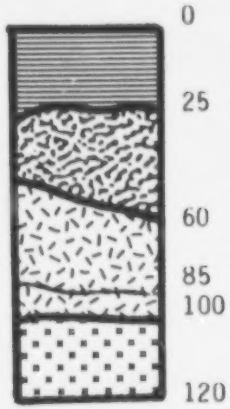
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9352	surface	0-10	5YR 2.5/1	82	2.0	16	6.6	5.8	4.1	0.66	12			50	
9353	surface	0-10	5YR 2.5/1	88	4.0	7.0	6.1	5.4	4.3	0.94	9.0			80	
9351	mineral	10-13	7.5YR 7/2	93	3.0	4.0	6.3	5.2	0.93	0.79	4.0			30	
9349	mineral	13-20	5YR 4/4	86	3.0	11	7.6	6.9	1.5	0.31	4.7			120	
9350	mineral	13-20	5YR 4/4	88	4.0	8.0	7.0	6.1	1.2	0.32	4.5			170	
9347	mineral	20-30	7.5YR 4/4	87	3.0	10	7.8	7.6	0.72	0.27	3.1			190	
9348	mineral	20-30	7.5YR 4/4	88	2.0	10	8.1	7.4	0.73	0.27	3.3			160	
9345	mineral	45-50	10YR 5/4	89	4.0	7.0	7.9	7.5	0.33	0.19	1.4			150	
9346	mineral	45-50	10YR 5/4	86	3.0	10	8.0	7.4	0.31	0.13	2.0			150	
9343	mineral	60-80	10YR 6/4	84	6.0	10	7.8	7.5	0.31	0.13	2.3			240	
9344	mineral	60-80	10YR 6/4	76	5.0	18	8.6	7.7	0.25	0.13	1.8			160	

SOIL PROFILE INFORMATION (cont'd.)

Site: MacGregor Point Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9352	surface	1200	230	77		7.7	0.070	0.030	0.0044	0.25	0.074	0.0050	<1.0	37	5.8	30	8.6
9353	surface	1100	200	61	6.0	8.0	0.070	0.030	0.0035	0.27	0.081	0.0050	<1.0	32	6.8	44	10
9351	mineral	470	86	18	<4.5	3.1	0.070	0.030	0.0015	0.28	0.060	0.0030	<1.0	19	9.5	55	<3.0
9349	mineral	960	250	28		6.8	0.12	0.10	0.0086	0.49	0.23	0.020	<1.0	17	5.9	49	<3.0
9350	mineral	760	130	25		4.9	0.11	0.10	0.0045	0.44	0.26	0.014	<1.0	20	5.7	45	<3.0
9347	mineral	600	140	22		4.1	0.050	0.030	0.0048	0.25	0.045	0.010	25	9.0	3.7	34	3.1
9348	mineral	540	110	19		3.6	0.050	0.030	0.0061	0.27	0.040	0.014	23	8.7	4.4	34	<3.0
9345	mineral	270	53	19		1.8	0.030	0.010	0.0030	0.24	0.020	0.0080	30	8.6	3.5	47	<3.0
9346	mineral	290	67	19		2.0	0.040	0.010	0.0053	0.24	0.020	0.0090	27	8.6	4.8	70	<3.0
9343	mineral	240	38	23		1.5	0.020	0.010	0.0029	0.26	0.010	0.0080	29	9.4	3.5	35	<3.0
9344	mineral	270	38	23		1.7	0.030	0.010	0.0043	0.29	0.020	0.012	28	9.2	3.6	43	<3.0

SOIL PROFILE INFORMATION



Site: Pottawatomi and Jones Falls Conservation Area

Location Code: 1001046

UTM: 17T 502200 4934300

Landform: shale plain/clay plain

Slope: gently sloping

Date: 80/07/03

Vegetation: grass

Comments: on river bank

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9372	surface	0-25	10YR2.5/1	55	20	25	7.0	6.3	2.7	0.86	7.0			280	
9373	surface	0-25	10YR2.5/1	57	17	26	7.0	6.4	2.5	1.6	7.0			630	
9370	mineral	25-60	10YR 4/4	69	13	18	7.2	6.4	0.77	0.44	4.2			380	
9371	mineral	25-60	10YR 4/4	68	14	18	7.0	6.4	0.92	0.76	4.0			600	
9368	mineral	60-85	10YR 5/6	69	14	17	7.3	6.5	1.2	0.67	3.5			350	
9369	mineral	60-85	10YR 5/6	76	10	14	7.3	6.4	0.81	0.43	2.6			310	
9366	mineral	85-100	5YR 4/3	60	19	21	8.0	7.0	1.0	1.0	3.7			680	
9367	mineral	85-100	5YR 4/3	68	13	20	7.5	6.8	0.97	0.72	3.6			690	
9364	mineral	100-120	2.5YR 5/2	8.0	53	39	8.3	7.7	0.48	2.2	6.6			570	
9365	mineral	100-120	2.5YR 5/2	6.0	56	38	8.5	7.8	0.39	0.35	8.1			440	

SOIL PROFILE INFORMATION (cont'd.)

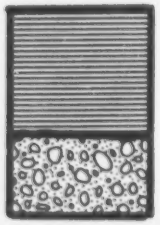
Site: Pottawatomi and Jones Falls Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9372	surface	2400	290	51		14	0.090	0.070	0.028	1.4	0.16	0.12	<1.0	42	24	20	5.2
9373	surface	2300	270	45		14	0.10	0.080	0.030	1.6	0.18	0.15	<1.0	48	23	32	5.1
9370	mineral	1000	190	23		6.8	0.11	0.040	0.0070	2.3	0.15	0.21	<1.0	30	22	36	3.1
9371	mineral	1200	220	23		7.9	0.15	0.050	0.019	2.1	0.13	0.21	<1.0	39	32	28	6.4
9368	mineral	1300	220	17		8.1	0.21	0.080	0.011	1.2	0.14	0.048	1.0	31	37	17	4.7
9369	mineral	880	160	14		5.7	0.15	0.050	0.0084	1.3	0.12	0.071	1.0	27	18	32	<3.0
9366	mineral	1400	240	23		8.8	0.17	0.070	0.013	2.3	0.16	0.18	7.0	39	32	25	11
9367	mineral	1200	270	25		7.9	0.15	0.060	0.015	2.0	0.13	0.18	2.0	37	32	21	6.8
9364	mineral	1800	240	54		11	0.020	0.010	0.0029	1.4	0.10	0.067	8.0	54	34	35	3.2
9365	mineral	1600	240	54		9.9	0.010	0.010	0.0024	1.4	0.090	0.047	20	55	40	33	<3.0

SOIL PROFILE INFORMATION

Horizon

surface



rock

Depth (cm)

0

10

Site: Bruce's Caves Conservation Area

Location Code: 1001048

UTM: 17T 493850 4957600

Landform: limestone outcrops

Slope: level

Date: 81/07/03

Vegetation: shrubs

Comments: depth to bedrock 10 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9380	surface	0-10	10YR2.5/1	9.0	39	52	7.7	7.2	11	4.8	23			1100	
9381	surface	0-10	10YR2.5/1	18	34	48	7.5	7.1	11	5.2	21			1000	

SOIL PROFILE INFORMATION (cont'd.)

Site: Bruce's Caves Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9380	surface	5200	1100	120		35	0.24	0.24	0.11	2.2	0.32	0.20	6.0	120	39	12	46
9381	surface	5600	1100	120		37	0.30	0.26	0.14	2.3	0.38	0.21	6.0	120	41	11	44

SOIL PROFILE INFORMATION

Horizon

surface

mineral

mineral

Depth (cm)

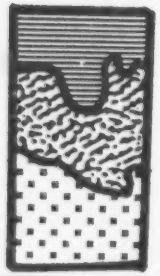
0

20

40

70

100



Site: Sauble Falls Provincial Park

Location Code: 1001049

UTM: 17T 479800 4946550

Landform: sand plain/sand dunes

Slope: nearly level

Date: 80/07/03

Vegetation: maple, pine, ferns

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9388	surface	0-20	10YR 3/3	91	<1.0	9.0	7.9	7.1	1.3	0.48	4.0			290	
9389	surface	0-20	10YR 3/3	88	<1.0	12	7.8	7.0	1.2	0.47	5.3			200	
9386	mineral	20-40	7.5YR 5/6	97	<1.0	4.0	7.7	7.0	0.64	0.17	2.1			150	
9387	mineral	20-40	7.5YR 5/6	95	<1.0	5.0	7.8	7.0	0.67	0.31	2.1			410	
9384	mineral	40-70	10YR 6/6	91	<1.0	8.0	8.4	7.8	0.16	<0.13	5.2			100	
9385	mineral	40-70	10YR 6/6	90	6.0	4.0	8.4	7.8	0.16	<0.13	2.6			160	
9382	mineral	70-100	10YR 6/4	91	<1.0	9.0	8.4	7.8		<0.14	4.9			140	
9383	mineral	70-100	10YR 6/4	90	<1.0	9.0	8.8	7.8	0.090	<0.12	0.50			90	

SOIL PROFILE INFORMATION (cont'd.)

Site: Sauble Falls Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9388	surface	750	130	3.0		4.8	0.030	0.040	0.0094	0.37	0.090	0.024	<1.0	19	4.4	47	<3.0
9389	surface	820	140	6.0		5.3	0.030	0.030	0.0095	0.36	0.080	0.024	<1.0	19	3.1	24	4.1
9386	mineral	360	76	6.0		2.4	0.040	0.080	0.0048	0.28	0.12	0.014	2.0	13	15	64	<3.0
9387	mineral	470	66	3.0		2.9	0.050	0.080	0.0058	0.33	0.13	0.020	1.0	11	3.2	68	<3.0
9384	mineral	240	33	3.0		1.5	0.010	0.010	0.0048	0.19	0.020	0.013	33	7.1	3.2	51	<3.0
9385	mineral	240	23	3.0		1.4	0.020	0.010	0.0050	0.19	0.030	0.013	34	8.8	8.3	49	<3.0
9382	mineral	190	19	6.0		1.1	0.020	0.010	0.0041	0.20	0.021	0.011	36	7.2	4.2	56	<3.0
9383	mineral	170	14	3.0		0.94	0.010	<0.0029	0.0025	0.19	0.012	0.0060	39	6.1	3.3	53	<3.0

SOIL PROFILE INFORMATION

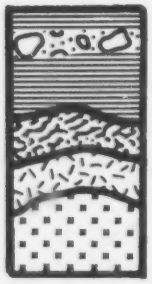
Horizon

surface

mineral

mineral

mineral



Depth (cm)

0
10
20
40
50
65
95

Site: Chesney Conservation Area

Location Code: 1001050

UTM: 17T 536500 4785650

Landform: kame moraine

Slope: moderate slopes

Date: 80/07/08

Vegetation: grasses, clover, maple

Comments: stone layer at 10-20 cm not sampled, indicates possible disturbance 65-95 very stoney

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9398	surface	0-10	10YR 3/3	62	17	20	7.7	7.1	2.3	1.3	7.9			300	
9399	surface	0-10	10YR 3/3	61	18	21	7.7	7.1	2.1	2.0	8.6			430	
9396	surface	20-40	10YR 4/4	58	25	17	7.8	7.4	1.3	0.56	6.5			220	
9397	surface	20-40	10YR 4/4	53	28	19	7.9	7.4	1.4	0.88	5.9			270	
9394	mineral	40-50	10YR 6/4	65	25	10	7.9	7.3	0.56	0.23	5.6			110	
9395	mineral	40-50	10YR 6/4	66	25	9.0	7.8	7.3	0.52	0.27	5.7			110	
9392	mineral	50-65	10YR 5/4	65	24	11	7.8	7.3	0.13	<0.11	4.2			140	
9393	mineral	50-65	10YR 5/4	66	24	10	7.8	7.3	0.27	0.22	4.7			130	
9390	mineral	65-95	5YR 4/6	59	12	28	8.0	7.5	0.40	0.33	5.9			380	
9391	mineral	65-95	5YR 4/6	72	10	18	8.3	7.7	0.36	0.22	7.7			420	

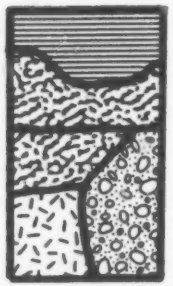
SOIL PROFILE INFORMATION (cont'd.)

Site: Chesney Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9398	surface	1600	290	120		10	0.070	0.040	0.016	0.76	0.10	0.023	1.0	53	18	9.8	12
9399	surface	1600	310	120		11	0.060	0.040	0.017	0.74	0.10	0.024	1.0	54	18	9.3	13
9396	surface	1400	170	22		8.0	0.090	0.050	0.010	0.78	0.11	0.025	2.0	46	22	9.2	6.9
9397	surface	1500	210	28		9.2	0.080	0.050	0.013	0.74	0.10	0.024	2.0	49	17	9.5	9.3
9394	mineral	660	71	11		3.9	0.10	0.070	0.0021	0.60	0.10	0.008	1.0	33	17	7.8	5.2
9395	mineral	640	76	11		3.8	0.12	0.080	0.0016	0.70	0.11	0.006	1.0	35	16	7.9	5.0
9392	mineral	530	76	8.0		3.2	0.040	0.020	0.0021	0.57	0.060	0.015	2.0	27	15	7.1	3.4
9393	mineral	530	66	11		3.2	0.050	0.030	0.0030	0.52	0.060	0.014	2.0	28	14	7.5	4.1
9390	mineral	1600	300	20		11	0.030	0.020	0.0028	1.6	0.20	0.043	4.0	61	25	16	10
9391	mineral	1400	240	17		9.0	0.050	0.030	0.0034	1.4	0.16	0.041	8.0	61	29	16	9.7

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Pittock Conservation Area

Location Code: 1001051

UTM: 17T 520000 4778000

Landform: till plain

Slope: level

Date: 80/07/08

Vegetation: maple, oak

Comments: large boulder at 45-50 cm
organic mottles at 20-35 cm
hematitic rock at 40 cm

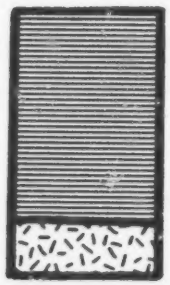
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9408	surface	0-18	5YR 2.5/2	57	18	25	7.6	7.0	3.7	2.6	13			620	
9409	surface	0-18	5YR 2.5/2	54	25	21	7.5	7.0	3.5	2.5	13			710	
9406	mineral	20-35	7.5YR 4/4	67	21	11	7.6	6.8	0.78	0.58	3.7			370	
9407	mineral	20-35	7.5YR 4/4	67	22	11	7.5	6.7	0.88	0.47	3.5			270	
9404	mineral	35-40	7.5YR 4/4	69	23	7.0	7.6	6.8	0.36	0.22	2.5			240	
9405	mineral	35-40	7.5YR 4/4	70	21	9.0	7.5	6.7	0.61	0.31	3.6			250	
9402	mineral	45-50	5YR 3/4	51	16	33	7.7	7.0	0.48	0.34	4.3			360	
9403	mineral	45-50	5YR 3/4	46	27	28	7.9	7.2	0.52	0.34	5.2			440	
9400	mineral	50-60	10YR 4/3	57	29	14	7.7	6.7	0.12	<0.14	1.8			320	
9401	mineral	50-60	10YR 4/3	56	26	17	7.5	6.7	0.20	<0.12	3.1			240	

SOIL PROFILE INFORMATION (cont'd.)

Site: Pittock Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9408	surface	2500	350	62		16	0.13	0.060	0.061	0.56	0.10	0.081	<1.0	60	21	8.0	20
9409	surface	2600	360	56		16	0.13	0.070	0.070	0.50	0.090	0.076	<1.0	57	13	6.3	20
9406	mineral	840	130	14		5.2	0.16	0.090	0.0080	0.61	0.15	0.032	<1.0	49	18	8.2	5.0
9407	mineral	880	130	17		5.4	0.23	0.12	0.014	0.62	0.15	0.091	<1.0	50	16	6.9	5.0
9404	mineral	550	96	14		3.5	0.060	0.040	0.0034	0.44	0.090	0.024	<1.0	37	13	8.3	5.4
9405	mineral	660	110	14		4.2	0.13	0.090	0.0080	0.45	0.10	0.025	<1.0	40	11	8.1	4.8
9402	mineral	1100	270	17		7.4	0.12	0.070	0.0099	0.96	0.13	0.054	1.0	56	21	16	8.9
9403	mineral	1500	380	23		10	0.13	0.070	0.012	1.1	0.14	0.058	1.0	72	39	18	11
9400	mineral	560	150	18		4.0	0.080	0.040	0.0040	0.67	0.080	0.047	<1.0	40	15	12	9.6
9401	mineral	780	190	14		5.4	0.060	0.030	0.0029	0.71	0.080	0.043	<1.0	37	17	11	6.9

SOIL PROFILE INFORMATION



Site: Wildwood Conservation Area

Location Code: 1001052

UTM: 17T 494900 4790450

Landform: fluvial deposit

Slope: level

Date: 80/07/08

Vegetation: pine

Comments: depth to watertable 75 cm, in flood plain

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9416	surface	0-15	10YR2.5/1	21	49	30	7.6	7.1	3.4	2.1	12			670	
9417	surface	0-15	10YR2.5/1	30	39	31	7.4	7.0	4.2	2.0	14			590	
9414	surface	15-40	10YR2.5/1	24	48	27	7.9	7.6	2.2	1.2	9.9			450	
9415	surface	15-40	10YR2.5/1	22	51	27	8.0	7.6	2.4	1.2	13			470	
9412	surface	40-65	10YR2.5/1	12	53	35	8.1	7.6	3.5	2.6	17			1100	
9413	surface	40-65	10YR2.5/1	12	47	41	8.0	7.5	3.9	3.4	16			1500	
9410	mineral	65-75	10YR 5/4	9.0	60	30	7.9	7.5	0.57	0.61	8.0			680	
9411	mineral	65-75	10YR 5/4	9.0	58	33	8.0	7.5	0.64	0.52	10			620	

SOIL PROFILE INFORMATION (cont'd.)

Site: Wildwood Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9416	surface	3200	200	45		19	0.10	0.060	0.029	0.96	0.13	0.077	<1.0	77	26	19	22
9417	surface	3400	340	51		20	0.090	0.060	0.039	0.99	0.13	0.079	<1.0	77	19	18	24
9414	surface	3000	220	40		17	0.080	0.070	0.016	0.95	0.14	0.082	2.0	66	23	18	12
9415	surface	3100	230	34		18	0.080	0.060	0.022	1.0	0.14	0.092	3.0	66	23	18	13
9412	surface	4800	290	34		27	0.12	0.17	0.015	0.99	0.17	0.070	1.0	84	51	20	11
9413	surface	4800	310	40		27	0.12	0.20	0.017	0.95	0.16	0.067	3.0	83	44	19	13
9410	mineral	2400	200	45		14	0.070	0.040	0.0029	1.1	0.15	0.086	1.0	79	34	25	11
9411	mineral	2400	210	48		14	0.060	0.040	0.0038	1.1	0.16	0.097	1.0	80	36	25	11

SOIL PROFILE INFORMATION

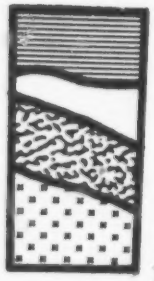
Horizon

surface

surface

mineral

mineral



Depth (cm)

0

30

50

70

100

Site: Fanshawe Conservation Area

Location Code: 1001053

UTM: 17T 486500 4766750

Landform: spillway

Slope: moderate slope

Date: 80/07/08

Vegetation: grasses, clover

Comments: bleached horizon at 40 cm. organic contamination when sampling bleached horizon

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9426	surface	0-30	5YR 3/1	24	48	28	8.1	7.6	4.0	2.1	13			250	
9427	surface	0-30	5YR 3/1	23	46	30	8.1	7.6	2.4	1.9	14			470	
9424	surface	30-50	5YR 5/1	25	49	26	8.0	7.5	2.5	1.6	12			530	
9425	surface	30-50	5YR 5/1	24	52	24	7.9	7.4	2.9	1.1	11			210	
9422	mineral	50-70	10YR 6/4	28	49	23	7.9	7.3	0.84	0.50	5.1			300	
9423	mineral	50-70	10YR 6/4	30	48	22	7.9	7.3	0.80	0.47	4.3			250	
9420	mineral	70-85	7.5YR 4/4	35	35	30	8.0	7.5	0.43	0.45	3.0			600	
9421	mineral	70-85	7.5YR 4/4	32	38	30	7.9	7.4	0.47	0.42	4.8			560	
9418	mineral	85-100	10YR 4/3	29	37	34	8.4	7.8	0.45	0.32	3.0			480	
9419	mineral	85-100	10YR 4/3	29	38	33	8.3	7.8	0.31	0.35	4.0			130	

SOIL PROFILE INFORMATION (cont'd.)

Site: Fanshawe Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9426	surface	3300	160	170		18	0.10	0.050	0.027	0.94	0.13	0.071	5.0	89	41	17	38
9427	surface	2900	150	220		16	0.080	0.040	0.023	0.89	0.12	0.065	6.0	85	27	16	38
9424	surface	2800	120	34		15	0.10	0.070	0.018	0.80	0.12	0.078	3.0	67	19	14	15
9425	surface	2600	110	34		14	0.11	0.070	0.015	0.85	0.13	0.075	2.0	70	22	14	15
9422	mineral	1600	110	20		9.0	0.11	0.060	0.0082	0.84	0.12	0.056	2.0	60	16	15	12
9423	mineral	1700	110	17		9.2	0.12	0.060	0.0079	0.85	0.12	0.055	2.0	63	22	18	14
9420	mineral	1800	140	28		10	0.060	0.020	0.0023	1.1	0.14	0.058	2.0	65	26	23	12
9421	mineral	1900	150	31		11	0.050	0.020	0.0023	1.0	0.13	0.056	2.0	62	30	25	13
9418	mineral	1800	140	25		10	0.030	0.010	0.0032	0.94	0.11	0.056	7.0	57	30	25	13
9419	mineral	1900	140	28		10	0.040	0.010	0.0019	1.1	0.12	0.064	7.0	59	28	27	9.1

SOIL PROFILE INFORMATION

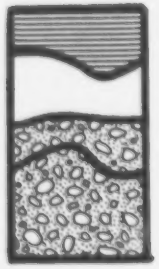
Horizon

surface

mineral

mineral

mineral



Depth (cm)

0

15

30

48

90

Site: Coldstream Conservation Area

Location Code: 1001054

UTM: 17T 459500 4763100

Landform: moraine

Slope: gently sloping

Date: 80/07/09

Vegetation: grass, maple

Comments: very stoney at 30 cm+

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9434	surface	0-15	10YR 5/1	62	20	18	7.9	7.4	2.7	2.6	5.7			340	
9435	surface	0-15	10YR 5/1	58	21	21	7.9	7.4	3.2	2.4	7.9			350	
9432	mineral	15-30	10YR 7/3	66	19	16	8.0	7.4	0.80	0.56	4.7			190	
9433	mineral	15-30	10YR 7/3				7.9	7.4	0.92	0.52	3.1			180	
9430	mineral	30-48	5YR 3/4	55	22	23	8.0	7.7	1.1	0.44	6.2			300	
9431	mineral	30-48	5YR 3/4	70	14	16	8.2	7.7	0.74	0.36	2.1			230	
9428	mineral	48-90	10YR 5/9	81	9.0	11	8.7	7.9	0.33	0.20	0.5			190	
9429	mineral	48-90	10YR 5/4	77	11	12	8.5	7.9	0.61	0.37	2.2			210	

SOIL PROFILE INFORMATION (cont'd.)

Site: Coldstream Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9434	surface	2500	100	22		13	0.11	0.060	0.014	0.78	0.12	0.038	2.0	63	16	11	15
9435	surface	2700	120	28		14	0.10	0.060	0.018	0.73	0.11	0.042	3.0	69	18	12	18
9432	mineral	1400	47	6.0		7.2	0.11	0.040	0.0064	1.0	0.14	0.034	2.0	53	15	14	11
9433	mineral	1300	37	6.0		6.7	0.10	0.040	0.0054	0.79	0.11	0.028	2.0	53	17	14	9.5
9430	mineral	3200	86	23		16	0.010	0.010	0.0017	1.6	0.25	0.054	19	86	29	31	14
9431	mineral	1900	52	14		9.9	0.030	0.030	0.0029	0.95	0.13	0.036	43	62	38	46	10
9428	mineral	840	23	8.0		4.4	0.010	0.010	0.0013	0.34	0.040	0.015	68	35	20	30	6.0
9429	mineral	860	23	8.0		4.5	0.070	0.040	0.0050	0.43	0.050	0.019	64	39	21	19	6.1

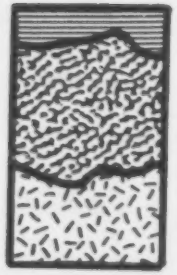
SOIL PROFILE INFORMATION

Horizon

surface

mineral

mineral



Depth (cm)

0
11
40
65
70
90
100

Site: Longwoods Road Conservation Area

Location Code: 1001055

UTM: 17T 453000 4743500

Landform: sand plain

Slope: very gentle slope

Date: 80/07/09

Vegetation: beech, elm, oak

Comments: compact red layer at 72 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9445	surface	0-11	5YR 2.5/2	74	6.0	20	6.3	5.6	3.2	1.61	15			280	
9446	surface	0-11	5YR 2.5/2				6.2	5.5	5.2	2.17	17			390	
9443	mineral	11-40	10YR 5/8	78	8.0	14	6.2	5.0	0.27	0.29	3.6			280	
9444	mineral	11-40	10YR 5/8	78	9.0	13	6.4	5.4	0.32	0.33	3.3			510	
9441	mineral	40-65	10YR 5/8	85	6.0	9.0	6.7	5.4	0.20	0.22	3.8			380	
9442	mineral	40-65	10YR 5/8	83	8.0	8.0	6.3	5.1	0.21	0.21	5.4			260	
9439	mineral	65-72	10YR 5/4	87	1.0	12	6.7	5.5	0.070	<0.11	2.1			380	
9440	mineral	65-72	10YR 5/4	88	6.0	6.0	6.4	5.3	0.010	0.16	4.8			470	
9438	mineral	72-90	7.5YR 4/4	65	20	15	6.6	5.5	0.11	0.22	4.0			690	
9436	mineral	90-100	10YR 5/4	92	4.0	5.0	7.2	5.6	0.070	<0.12	1.2			360	
9437	mineral	90-100	10YR 5/4	87	6.0	6.0	7.1	5.7	0.030	<0.11	0.70			420	

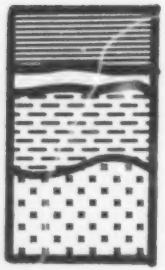
SOIL PROFILE INFORMATION (cont'd.)

Site: Longwoods Road Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9445	surface	1600	160	51		9.4	0.10	0.040	0.034	0.43	0.10	0.081	<1.0	70	10	4.4	23
9446	surface	2100	230	56		13	0.13	0.050	0.052	0.43	0.090	0.060	<1.0	77	10	4.5	36
9443	mineral	220	37	18	5.4	1.5	0.13	0.090	0.0048	0.50	0.12	0.020	<1.0	49	5.8	4.5	3.9
9444	mineral	340	33	21	<2.3	2.0	0.12	0.080	0.0081	0.49	0.11	0.030	<1.0	39	8.0	5.2	3.9
9441	mineral	190	26	34	<2.3	1.2	0.10	0.080	0.0045	0.47	0.12	0.022	<1.0	39	9.9		4.6
9442	mineral	190	47	30	3.0	1.5	0.10	0.070	0.0026	0.57	0.12	0.014	<1.0	55	7.9		4.5
9439	mineral	88	14	14	<2.3	0.65	0.050	0.040	0.0029	0.30	0.070	0.022	<1.0	29		4.9	5.5
9440	mineral	120	24	14	<2.3	0.85	0.080	0.060	0.0026	0.31	0.070	0.022	<1.0	32	8.3	5.5	4.7
9438	mineral	190	28	17		1.2	0.11	0.070	0.0051	0.45	0.11	0.033	<1.0	34	6.9	6.1	5.3
9436	mineral	74	14	8.0		<0.50	0.040	0.040	0.0033	0.34	0.070	0.028	<1.0	24	8.5		5.6
9437	mineral	110	9.0	8.0		0.64	0.030	0.030	0.0023	0.30	0.060	0.027	<1.0	25	14		4.7

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

0
20
23
30
50

Site: Dalewood Conservation Area

Location Code: 1001056

UTM: 17T 485550 4739000

Landform: clay plain

Slope: very gentle slope

Date: 80/07/09

Vegetation: beech, maple

Comments: bleached layer at 20-23 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9453	surface	0-20	10YR2.5/1	17	49	33	6.8	6.3	5.1	3.1	12			600	
9454	surface	0-20	10YR2.5/1	19	48	33	6.9	6.4	5.5	3.8	9.2			700	
9451	mineral	20-23	10YR 5/3	17	41	43	6.5	6.0	1.2	0.60	6.5			300	
9452	mineral	20-23	10YR 5/3	17	51	32	6.7	6.0	1.5	0.86	5.4			310	
9449	mineral	23-30	10YR 4/4	11	34	55	7.3	7.0	0.86	0.82	4.8			500	
9450	mineral	23-30	10YR 4/4	11	36	53	7.8	7.4	0.61	0.48	6.0			420	
9447	mineral	30-50	10YR 4/3	13	37	51	8.2	7.8	0.73	0.40	5.0			340	
9448	mineral	30-50	10YR 4/3	8.0	38	54	8.3	7.8	0.48	0.34	4.4			460	

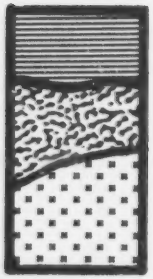
SOIL PROFILE INFORMATION (cont'd.)

Site: Dalewood Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9453	surface	3500	360	110		21	0.18	0.060	0.016	0.89	0.14	0.037	<1.0	82	27	13	19
9454	surface	3500	350	110		21	0.17	0.050	0.014	0.86	0.14	0.037	<1.0	80	24	12	18
9451	mineral	2500	250	51		15	0.17	0.050	0.0041	1.5	0.19	0.041	<1.0	83	44	28	10
9452	mineral	1900	180	40		11	0.22	0.070	0.0040	1.1	0.16	0.028	<1.0	68	23	18	9.6
9449	mineral	3200	260	62		18	0.090	0.020	0.0055	1.6	0.17	0.053	3.0	86	55	36	10
9450	mineral	3600	230	68		20	0.10	0.020	0.0047	1.6	0.18	0.061	3.0	87	48	36	11
9447	mineral	2800	150	56		15	0.030	0.010	0.0042	1.2	0.13	0.057	17	77	42	36	4.5
9448	mineral	2900	180	56		16	0.020	0.010	0.0033	1.1	0.11	0.053	16	74	43	31	8.1

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

0
20
40
60
80

surface

mineral

mineral

Site: Springwater Conservation Area

Location Code: 1001057

UTM: 17T 497550 4732700

Landform: clay plain

Slope: level

Date: 80/07/09

Vegetation: pine forest

Comments: depth to faint mottling 60 cm. evidence of plowing

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9461	surface	0-20	10YR 3/2	64	18	18	7.7	7.2	1.4	1.1	5.4			440	
9462	surface	0-20	10YR 3/2				7.6	7.1	2.1	1.4	8.1			430	
9459	mineral	20-40	7.5YR 4/4	64	10	25	8.2	7.7	0.16	0.34	7.9			330	
9460	mineral	20-40	7.5YR 4/4	65	11	24	8.3	7.6	0.23	0.31	8.9			280	
9457	mineral	40-60	10YR 5/3	11	53	35	8.4	7.9	0.35	0.35	11			750	
9458	mineral	40-60	10YR 5/3	20	41	39	8.4	7.8	0.16	0.45	11			260	
9455	mineral	60-80	10YR 6/4	3	68	28	8.4	7.9	0.25	0.38	11			700	
9456	mineral	60-80	10YR 6/4	4	70	26	8.6	7.9	0.17	0.22	8.6			630	

SOIL PROFILE INFORMATION (cont'd.)

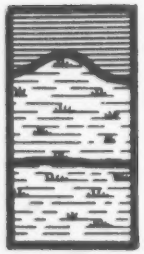
Site: Springwater Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9461	surface	1300	190	20		8.1	0.040	0.010	0.011	0.68	0.080	0.043	<1.0	44	11	7.1	7.7
9462	surface	1500	210	30		9.4	0.040	<0.0020	0.013	0.75	0.080	0.048	<1.0	46	14	6.6	10
9459	mineral	1300	200	20		8.3	0.050	0.010	0.0016	1.6	0.13	0.052	1.0	56	25	13	6.0
9460	mineral	1300	200	22		8.3	0.050	0.010	0.0012	1.2	0.10	0.055	2.0	60	23	15	7.6
9457	mineral	1800	250	22		11	0.020	<0.0020	0.0031	1.4	0.12	0.054	16	64	32	20	6.9
9458	mineral	2100	300	25		13	0.020	<0.0020	0.0022	1.6	0.13	0.054	7.0	73	35	21	8.5
9455	mineral	1400	180	22		8.5	0.010	<0.0020	0.0031	1.0	0.080	0.037	32	53	35	18	5.3
9456	mineral	1400	180	22		8.5	0.010	<0.0020	0.0029	1.0	0.080	0.043	33	54	27	19	5.6

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0



20

mineral

33

mineral

47

Site: Wheatley Provincial Park

Location Code: 1001123

UTM: 17T 380500 4665000

Landform: clay plain

Slope: simple, class 1, level

Date: 81/05/05

Parent Material: lacustrine clay

Vegetation: ironwood, ash, red oak, sugar maple

Comments: mottle colour 7.5YR 7/8 at 32 cm
mottle colour 7.5YR 5/6 at 50 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17143	surface	0-20	10YR 3/1	34	17	49	6.3	5.9	6.0	5.0			25		0.16
17142	surface	0-20	10YR 3/1	29	23	48	6.3	5.8	5.0	4.9			32		0.22
17141	mineral	20-33	10YR 6/2	18	37	46	4.7	3.9	1.0	0.80			<3.0		6.9
17140	mineral	20-33	10YR 6/2	17	37	47	4.7	3.9	1.0	0.80			<3.0		7.0
17139	mineral	33-47	2.5Y 6/2	25	11	64	5.0	4.4	1.0	0.70			16		1.1
17138	mineral	33-47	2.5Y 6/2	21	18	61	5.6	4.9	1.0	0.90			7.0		0.090

SOIL PROFILE INFORMATION (cont'd.)

Site: Wheatley Provincial Park

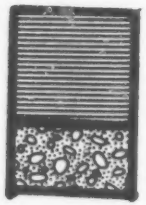
Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17143	surface	3400	440	200		21	0.17	0.12	0.039	0.61	0.15	0.090	<1.0	100	19	17	18
17142	surface	2300	420	200		16	0.20	0.12	0.031	0.59	0.15	0.059	<1.0	94	16	15	14
17141	mineral	920	210	83	250	9.0	0.20	0.14	0.0035	1.4	0.16	0.025		72	22	23	3.9
17140	mineral	740	200	83	250	8.1	0.18	0.14	0.0025	1.2	0.14	0.015		65	17	18	4.7
17139	mineral	1600	370	95	62	12	0.17	0.070	0.0083	1.4	0.14	0.036		93	28	38	<3.0
17138	mineral	1700	420	88	9.0	12	0.14	0.050	0.0091	1.3	0.14	0.039		93	29	42	<3.0

SOIL PROFILE INFORMATION

Horizon

surface

rock



Depth (cm)

0

20

Site: The Glen Management Area

Location Code: 1001126

UTM: 17T 500360 4942560

Landform: limestone outcrop

Slope: level

Date: 81/05/06

Vegetation: ironwood

Comments: surface soil overlying limestone bedrock

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17154	surface	0-10	10YR 2/1				7.3	7.0							0.15
17153	surface	0-10	10YR 2/1				7.2	6.9							0.83

SOIL PROFILE INFORMATION (cont'd.)

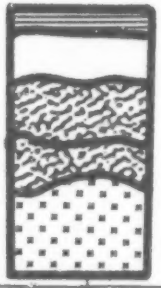
Site: The Glen Management Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17154	surface	3500	870	170		25							43				
17153	surface	3500	1200	410		28							36				

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0
5
mineral 10
mineral
23
mineral 34
mineral 60



Site: Pinery Provincial Park

Location Code: 1001127

UTM: 17T 42100 4787100

Landform: beach/dunes

Slope: level

Date: 81/05/05

Vegetation: red oak, birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17152	surface	0-5	10YR 2/1	68	11	21	5.5	4.9	12	3.5			9.0		7.0
17151	surface	0-5	10YR 2/1				5.2	4.8	22	5.1					
17150	mineral	5-10	10YR 5/1	88	<1.0	12	6.6	5.8	3.0	0.50			<3.0		0.91
17149	mineral	10-23	2.5Y 4/4	86	1.0	13	7.9	7.4	1.0	0.80			<3.0		<0.080
17148	mineral	10-23	2.5Y 4/4	86	<1.0	14	8.1	7.4	2.0	0.60			<3.0		0.10
17147	mineral	23-34	2.5Y 3/2	89	3.0	9.0	8.1	7.4	1.0	0.60			<3.0		<0.080
17146	mineral	23-34	2.5Y 3/2	86	4.0	10	8.0	7.4	2.0	0.60			<3.0		<0.080
17145	mineral	34-60	10YR 5/3	88	2.0	9.0	8.3	7.6	<0.50	0.40			<3.0		<0.080
17144	mineral	34-60	10YR 5/3	85	2.0	13	8.2	7.6	<0.50	0.40			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

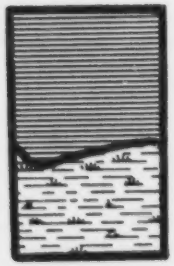
Site: Pinery Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17152	surface	2100	480	39	<2.3	14	0.20	0.14	0.036	0.52	0.12	0.039		120	12	9.2	76
17151	surface	2700	680	84	5.0	19	0.25	0.10	0.040	0.63	0.15	0.046		140	12	11	130
17150	mineral	850	130	4.0		5.3	0.22	0.12	0.010	0.54	0.14	0.019	<1.0	40	3.9	7.2	7.7
17149	mineral	1100	120	2.0		6.4	0.024	0.010	0.0026	0.19	0.016	0.016	14	5.2	1.9	3.1	<3.0
17148	mineral	990	88	<0.80		5.6	0.066	0.051	0.0086	0.23	0.047	0.016	34	13	4.9	5.1	<3.0
17147	mineral	1400	100	2.0		8.5	0.052	0.032	0.0047	0.17		0.016	10	4.7	1.4	<2.0	3.8
17146	mineral	1200	110	<1.6		7.2	0.070	0.033	0.0060	0.25	0.040	0.015	21	6.6	2.9	4.4	<3.0
17145	mineral	1000	40	<1.6		5.4	0.013	0.012	0.0017	0.11	0.016	0.0029	27	4.5	1.9	2.8	<3.0
17144	mineral	670	29	<1.6		3.6	0.029	0.023	0.0033	0.17	0.030	0.0081	38	7.0	3.4	3.8	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0



35

mineral | 55

Site: Galbraith Conservation Area

Location Code: 1001131

UTM: 17T 505100 4829100

Landform: till plain

Slope: level

Date: 81/06/04

Vegetation: pine

Comments: mottling at 35+ cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17256	surface	0-20	10YR 4/1	16	49	34	6.2	5.8	3.0						
17255	surface	0-20	10YR 4/1	15	49	36	6.4	5.7	3.0						
17254	surface	20-35	10YR 4/1	17	50	33	7.0	6.0	2.0						
17253	surface	20-35	10YR 4/1	17	56	27	6.9	6.2	2.0						
17252	surface	20-35	10YR 4/1	17	51	32	7.0	6.4	1.0						
17251	surface	20-35	10YR 4/1	14	48	38	7.1	6.4	2.0						
17250	mineral	35-55	10YR 5/6	21	53	25	7.6	6.7	<0.50						
17249	mineral	35-55	10YR 5/6	24	52	24	7.5	6.9	<0.50						

SOIL PROFILE INFORMATION (cont'd.)

Site: Galbraith Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17256	surface	2000	570	73		14							<1.0				
17255	surface	2100	620	83		16							<1.0				
17254	surface	1900	500	21		14							<1.0				
17253	surface	2100	480	21		14							<1.0				
17252	surface	1900	540	26		14							<1.0				
17251	surface	2100	720	35		16							<1.0				
17250	mineral	1900	500	40		14							<1.0				
17249	mineral	1900	470	30		13											

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

Site: Longwoods Conservation Area

Location Code: 1001134

UTM: 17T 460950 4747500

Landform: sand plain

Slope: class 5, moderately steep

Date: 81/05/13

Vegetation: cedar

Comments: site beside A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18019	surface	0-15	10YR 3/3	83	9.0	8.0	5.5	4.9	2.0	1.5			5.0		1.5
18018	surface	0-15	10YR 3/3	84	8.0	8.0	5.2	4.6	2.0	1.0			<3.0		0.24
18017	mineral	15-27	10YR 5/6	81	12	6.0	5.9	5.2	1.0	0.40			<3.0		0.58
18016	mineral	15-27	10YR 5/6	81	13	6.0	6.0	5.4	<0.50	0.30			<3.0		<0.080
18015	mineral	27-40	10YR 5/8	71	16	13	6.0	5.5	<0.50	0.30			<3.0		0.094
18014	mineral	27-40	10YR 5/8	65	19	16	6.3	5.5	<0.50	0.20			<3.0		<0.080
18013	mineral	40-50	10YR 4/4	64*	17*	19*	5.7	5.1	1.0	0.30			<3.0		0.17
18012	mineral	40-50	10YR 4/4	37*	25*	38*	5.8	5.0	1.0	0.50			<3.0		<0.080
18011	mineral	50-80	10YR 5/6	88	3.0	9.0	6.2	5.4	<0.50	<0.10			<3.0		<0.080
18010	mineral	50-80	10YR 5/6	80	8.0	13	6.3	5.5	<0.50	0.20			<3.0		<0.080

* particle size verified by repeat analysis

SOIL PROFILE INFORMATION (cont'd.)

Site: Longwoods Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18019	surface	980	82	170	<2.3	6.0	0.11	0.10	0.016	0.60	0.17	0.023		72	9.3	7.0	13
18018	surface	720	59	120	11	4.5	0.10	0.10	0.013	0.53	0.15	0.020		66	8.4	6.6	11
18017	mineral	270	18	45	<2.3	1.6	0.12	0.095	0.0055	0.60	0.17	0.029	<1.0	50	8.5	8.1	3.5
18016	mineral	300	27	54	<2.3	1.9	0.098	0.049	0.0041	0.57	0.12	0.041	<1.0	42	10	7.6	6.2
18015	mineral	420	47	58		2.6	0.063	0.033	0.0031	0.54	0.088	0.033	<1.0	43	13	7.6	4.0
18014	mineral	640	82	54		4.0	0.071	0.031	0.0022	0.85	0.12	0.039	<1.0	48	20	11	4.7
18013	mineral	1200	160	70	<2.3	7.3	0.095	0.045	0.0044	1.2	0.15	0.043	<1.0	83	34	19	10
18012	mineral	1300	230	97	<2.3	8.5	0.12	0.055	0.0048	1.7	0.21	0.050	<1.0	100	49	28	14
18011	mineral	350	36	45	<2.3	2.1	0.037	0.019	0.0014	0.50	0.065	0.024	<1.0	50	14	6.5	7.1
18010	mineral	670	82	69		4.2	0.064	0.027	0.0022	0.87	0.098	0.032	<1.0	76	23	11	12

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0
20
mineral 30
mineral 60
mineral 70

Site: John E. Pearce Provincial Park

Location Code: 1001165

UTM: 17T 463850 4716800

Landform: sand plain

Slope: gentle slopes

Date: 81/06/17

Vegetation: maple, elm

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17367	surface	0-20	10YR 3/1	64	16	20	5.8	5.2	1.0	2.4			4.0		0.84
17366	surface	0-20	10YR 3/1	66	20	14	5.2	5.0	1.0	3.2			10		0.87
17365	mineral	20-30	10YR 4/6	72	11	17	6.0	5.4	1.0	0.80			<3.0		0.14
17364	mineral	20-30	10YR 4/6	70	14	16	5.9	5.3	1.0	0.80			<3.0		0.50
17363	mineral	30-60	10YR 4/4	72	14	14	6.0	5.4	1.0	0.50			<3.0		0.20
17362	mineral	30-60	10YR 4/4	66	16	18	6.1	5.5	1.0	0.50			<3.0		0.12
17361	mineral	60-70	10YR 5/4	68	16	16	5.9	5.5	1.0	0.40			<3.0		<0.080
17360	mineral	60-70	10YR 5/4	73	15	12	6.2	5.6	<0.50	0.30			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: John E. Pearce Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17367	surface	1500	150	63	<2.3	9.0	0.14	0.12	0.0071	0.37	0.14	0.0086	<1.0	34	4.6	2.5	8.3
17366	surface	2000	170	67	7.0	12	0.12	0.11	0.0082	0.38	0.13	0.011	<1.0	38	4.6	2.7	8.6
17365	mineral	510	39	4.0	4.0	2.9	0.17	0.20	0.00090	0.51	0.29	0.0030	<1.0	35	5.6	6.8	<3.0
17364	mineral	500	42	4.0	<2.3	2.8	0.19	0.20	0.0012	0.54	0.28	0.0046	<1.0	31	4.1	4.3	<3.0
17363	mineral	400	32	<1.6	<2.3	2.3	0.13	0.15	0.0011	0.44	0.24	0.0035	<1.0	25	4.6	5.7	<3.0
17362	mineral	390	30	<1.6		2.2	0.12	0.15	0.0011	0.44	0.23	0.0039	<1.0	26	4.6	5.7	<3.0
17361	mineral	320	28	<1.6		1.8	0.088	0.080	0.0013	0.39	0.17	0.0069	<1.0	21	4.5	6.2	4.2
17360	mineral	220	21	<1.6		1.3	0.072	0.068	0.0013	0.34	0.15	0.0081	<1.0	21	4.5	6.2	<3.0

SOIL PROFILE INFORMATION

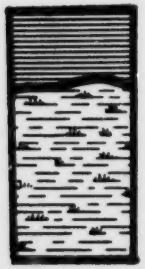
Horizon

surface

mineral

mineral

Depth (cm)



Site: A. W. Campbell Conservation Area

Date: 81/06/17

Location Code: 1001166

UTM: 17T 431650 4741550

Vegetation: maple, elm

Landform: clay plain

Comments: mottle colour 10YR 6/6 at 30-50 cm.

Slope: simple, class 1, level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17343	surface	0-20	10YR 2/1	10	44	46	6.3	5.9	7.0	7.4			11		0.16
17342	surface	0-20	10YR 2/1	9.0	38	53	6.5	5.9	7.0	6.2			11		0.21
17341	mineral	20-30	10YR 6/2	14	34	52	4.6	3.9	1.0	1.1			<3.0		10
17340	mineral	20-30	10YR 6/2	12	46	43	4.8	3.9	1.0	0.90			<3.0		11
17339	mineral	30-50	10YR 5/2	3.0	34	63	7.5	7.0	1.0	0.70			<3.0		<0.080
17338	mineral	30-50	10YR 5/2	2.0	35	62	7.4	7.2	1.0	0.90			<3.0		0.096

SOIL PROFILE INFORMATION (cont'd.)

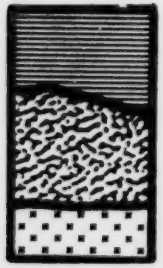
Site: A. W. Campbell Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17343	surface	3800	500	400		24	0.20	0.11	0.034	0.81	0.18	0.075	<1.0	82	12	17	20
17342	surface	3300	490	360		21	0.19	0.10	0.034	0.81	0.17	0.072	<1.0	80	12	17	18
17341	mineral	770	120	96	370	8.7	0.19	0.095	0.0030	0.92	0.17	0.0098		67	11	22	6.2
17340	mineral	710	120	110	400	8.8	0.18	0.10	0.0028	0.94	0.17	0.012		67	9.9	21	6.9
17339	mineral	2400	390	96	<4.5	15	0.035	0.018	0.0048	1.1	0.15	0.040	2.0	79	25	38	5.6
17338	mineral	3000	390	88		18	0.035	0.018	0.0048	1.1	0.15	0.043	2.0	84	28	39	7.3

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Mill Pond Conservation Area

Location Code: 1001167

UTM: 17T 460950 4747500

Vegetation: elm

Landform: spillway

Comments:

Slope: moderate slope

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17359	surface	0-20	10YR 3/2	31	42	27	7.8	7.3	2.0	1.4			6.0		<0.080
17358	surface	0-20	10YR 3/2	34	35	31	7.5	7.1	1.0	1.2			<3.0		<0.080
17357	mineral	20-40	10YR 5/3	23	39	38	7.9	7.4	<0.50	0.50			<3.0		<0.080
17356	mineral	20-40	10YR 5/3	33	43	23	7.9	7.4	<0.50	0.50			<3.0		<0.080
17355	mineral	40-60	10YR 4/3	33	44	22	7.9	7.3	1.0	0.40			<3.0		<0.080
17354	mineral	40-60	10YR 4/3	27	53	21	8.0	7.4	1.0	0.70			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Mill Pond Conservation Area

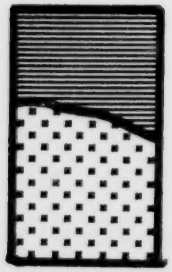
Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17359	surface	2500	120	110		14	0.041	0.016	0.015	0.42	0.052	0.023	14	42	12	9.5	10
17358	surface	2300	86	98		12	0.041	0.016	0.015	0.47	0.064	0.026	14	40	12	8.4	9.5
17357	mineral	1300	42	47		6.8	0.022	0.0080	0.0053	0.42	0.052	0.023	20	34	11	9.0	6.6
17356	mineral	1500	51	55		8.0	0.025	0.012	0.0057	0.40	0.049	0.020	19	33	10	7.5	5.2
17355	mineral	1300	39	51		6.8	0.031	0.013	0.0060	0.44	0.064	0.021	18	35	11	9.5	4.3
17354	mineral	1300	53	35		7.1	0.028	0.010	0.0056	0.36	0.043	0.020	26	32	9.9	7.5	4.6

SOIL PROFILE INFORMATION

Horizon

surface

mineral



Depth (cm)

0

25

30

40

Site: Craigleith Provincial Park

Location Code: 1001185

UTM: 17T 557900 4931000

Landform: clay plain

Slope: level

Date: 81/06/23

Vegetation: grasses, shrubs

Comments: depth to shale bedrock 40 cm road cut, soil below 30 cm not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18198	surface	0-25	2.5YR 5/2	2.0	34	63	7.6	7.3	2.0	2.4					0.50
18199	mineral	25-30	2.5YR 6/2	<1.0	18	81	8.3	7.6	1.0	0.80					0.11

SOIL PROFILE INFORMATION (cont'd.)

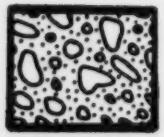
Site: Craigleith Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18198	surface	3000	300	290		18	0.10	0.059	0.016	1.3	0.12	0.054	2.0	80	18	25	<3.0
18199	mineral	2200	320	87		14	0.018	0.013	0.0038	1.3	0.082	0.021	12	52	15	24	<3.0

SOIL PROFILE INFORMATION

Horizon

surface



rock

Depth (cm)

0

8

Site: Eugenia Falls Conservation Area

Location Code: 1001187

UTM: 17T 537850 4906600

Landform: limestone plain

Slope: level

Date: 81/07/15

Vegetation: cedar, maple

Comments: depth to limestone bedrock 8 cm. very stoney

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18257	surface	0-8	10YR 3/2	16	42	42	7.2	6.9	7.0	6.3					<0.080
18256	surface	0-8	10YR 3/2	16	44	41	7.0	6.8	7.0	7.0					<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Eugenia Falls Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18257	surface	950	830	140		12	0.21	0.097	0.068	1.2	0.20	0.13	1.9	77	12	11	43
18256	surface	3800	760	140		24	0.19	0.091	0.063	1.1	0.18	0.12	2.0	72	12	11	38

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

surface

surface/
mineral

Site: Wawanosh Valley Conservation Area

Date: 81/07/15

Location Code: 1001202

UTM: 17T 462900 4852600

Vegetation: cedar

Landform: kame moraine

Comments: very stoney

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18270	surface	0-17	10YR 3/2	61	18	20	7.7	7.3	4.0	2.4					0.088
18269	surface	0-17	10YR 3/2	62	18	20	7.7	7.3	5.0	2.6					<0.080
18268	surface mineral	17-20	7.5YR 5/6	61	20	19	7.6	7.2	3.0	1.4					<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Wawanosh Valley Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18270	surface	1700	220	56		11	0.18	0.13	0.060	0.97	0.16	0.088	13	66	7.4	10	10
18269	surface	1600	200	62		9.5	0.18	0.10	0.054	0.94	0.14	0.089	15	70	8.9	10	16
18268	surface mineral	1000	160	31		6.5	0.22	0.17	0.030	1.6	0.22	0.094	6.0	84	14	19	6.2

SOIL PROFILE INFORMATION

Horizon

surface

Depth (cm)

Site: Falls Reserve Conservation Area

Location Code: 1001203

UTM: 17T 449150 4840800

Landform: moraine

Slope: gentle slope

Date: 81/07/15

Vegetation: grasses

Comments: exceedingly stoney
many weathered rocks (quartz, sandstone), 15-20 cm depth not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18267	surface	0-15	10YR 2/2	55	23	22	7.8	7.3	6.0	3.3					<0.080
18266	surface	0-15	10YR 2/2	54	24	22	7.8	7.4	6.0	3.5					0.26

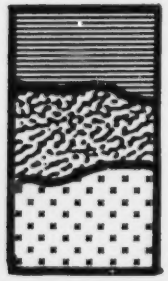
SOIL PROFILE INFORMATION (cont'd.)

Site: Falls Reserve Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18267	surface	1700	150	90		10	0.13	0.13	0.049	1.4	0.31	0.14	12	120	10	16	28
18266	surface	2000	160	99		11	0.13	0.12	0.051	1.3	0.30	0.15	11	120	11	17	26

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Filtration Plant, Union

Location Code: 1001204

UTM: 17T 484250 4727350

Landform: sand plain/clay plain overlap

Slope: level

Date: 81/07/15

Vegetation: grass

Comments: near A.P.I.O.S. precipitation collector, topsoil disturbed

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18264A	surface	0-25	10YR 4/4	39	35	26	7.3	6.5	1.0	0.60			15		<0.080
18263	surface	0-25	10YR 4/4	33	39	28	7.2	6.4	1.0	0.60					<0.080
18262	mineral	25-45	10YR 5/4	50	36	14	7.2	6.4	<0.50	0.30					<0.080
18261	mineral	25-45	10YR 5/4	51	33	16	7.8	7.0	<0.50	0.30					<0.080
18260	mineral	45-55	10YR 5/4	51	32	17	7.5	6.8	<0.50	0.20					<0.080
18265	mineral	45-55	10YR 5/4	30*	55*	15*	7.7	7.0	<0.50	0.30					<0.080
18259	mineral	55-60	10YR 5/6	16	71	13	8.5	7.7	<0.50	<0.10					<0.080
18258	mineral	55-60	10YR 5/6	18	64	17	8.5	7.7	<0.50	0.20					<0.080

* Texture verified by repeat analysis.

SOIL PROFILE INFORMATION (cont'd.)

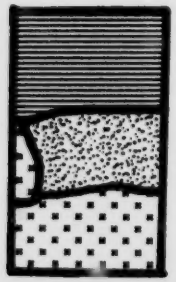
Site: Filtration Plant, Union

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18264	surface	1400	220	82		9.2	0.077	0.037	0.0066	0.69	0.094	0.033	<1.0	43	11	11	7.7
18263	surface	1400	200	69		9.0	0.067	0.031	0.0037	0.89	0.10	0.034	<1.0	45	13	11	6.3
18262	mineral	700	88	34		4.4	0.030	0.017	0.0013	0.48	0.058	0.033	2.0	32	10	7.1	<3.0
18261	mineral	1200	110	29		6.7	0.031	0.018	0.0018	0.57	0.064	0.037	2.0	42	15	8.9	8.4
18260	mineral	970	130	31		6.0	0.036	0.020	0.0012	0.66	0.074	0.040	2.0	92	35	19	12
18265	mineral	1700	200	51		10	0.036	0.023	0.0016	0.66	0.076	0.043	1.0	42	17	11	3.6
18259	mineral	680	60	19		3.9	0.010	0.0070	0.0021	0.35	0.028	0.024	23	24	12	5.8	<3.0
18258	mineral	680	58	13		3.9	0.0090	0.0060	0.0022	0.33	0.031	0.023	23	24	13	5.5	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Point Farms Provincial Park

Location Code: 1001205

UTM: 17T 441450 4850250

Landform: till plain

Slope: level

Date: 81/07/16

Vegetation: maple, grasses

Comments: 18273 from soil pocket on left side of profile

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18277	surface	0-20	10YR 2/2				7.0	6.8	7.0	6.3					0.38
18276	surface	0-20	10YR 2/2	47	29	24	7.4	6.9	5.0	6.9					0.30
18275	surface mineral	20-35	10YR 5/8	42	40	18	7.3	6.8	2.0	1.9					0.16
18274	surface mineral	20-35	10YR 5/8	36	36	21	7.2	6.8	3.0	2.1					0.099
18273	surface mineral	35-40	7.5YR 5/6	41	49	11	7.7	7.1	1.0	0.90					<0.080
18272	mineral	40-55	2.5YR 7/4	5.0	82	12	8.5	7.6	<0.50	0.30					<0.080
18271	mineral	40-55	2.5YR 7/4	4.0	85	11	8.4	7.6	<0.50	0.20					<0.080

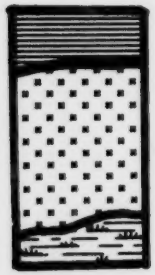
SOIL PROFILE INFORMATION (cont'd.)

Site: Point Farms Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18277	surface	5000	950	120		33	0.11	0.066	0.0084	0.43	0.098	0.011	<1.0	30	4.9	4.7	8.8
18276	surface	5000	890	130		31	0.099	0.058	0.0095	0.47	0.10	0.014	<1.0	31	5.4	4.8	6.7
18275	surface mineral	1500	280	52		9.9	0.25	0.23	0.0061	0.91	0.36	0.018	<1.0	38	6.4	13	<3.0
18274	surface mineral	1600	300	56		11	0.30	0.24	0.0058	0.94	0.36	0.019	<1.0	36	4.9	11	<3.0
18273	surface mineral	790	180	43		5.5	0.11	0.070	0.010	0.61	0.11	0.036	27	14	6.9	9.5	<3.0
18272	mineral	850	130	28		5.4	0.0030	0.016	0.0035	0.26	0.031	0.0095	57	3.7	4.9	4.8	<3.0
18271	mineral	530	70	17		3.3	0.030	0.013	0.0033	0.25	0.028	0.0093	57	2.6	3.9	4.9	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



surface 0
15
surface
40
mineral
70
mineral 80

Site: Clinton Conservation Area

Location Code: 1001206

UTM: 17T 457550 4827400

Landform: till plain

Slope: level

Date: 81/07/16

Vegetation: grasses

Comments: stoney at 80 cm, near swamp

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18285	surface	0-15	10YR 3/1	33	34	33	7.7	7.3	3.0	3.1			4.0		<0.080
18284	surface	0-15	10YR 3/1	35	38	27	7.8	7.3	3.0	3.2			<3.0		<0.080
18283	surface	15-40	10YR 3/2	38	37	25	7.9	7.4	2.0	1.9			<3.0		<0.080
18282	surface	15-40	10YR 3/2	40	35	25	7.9	7.4	2.0	2.0			<3.0		<0.080
18281	mineral	40-70	10YR 5/6	48	45	7.0	8.1	7.5	1.0	2.0			<3.0		<0.080
18280	mineral	40-70	10YR 5/6	56	40	4.0	8.1	7.5	1.0	1.4			<3.0		<0.080
18279	mineral	70-80	10YR 4/6	65	21	14	8.3	7.6	1.0	0.80			<3.0		<0.080
18278	mineral	70-80	10YR 4/6	67	18	15	8.3	7.6	1.0	0.80			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

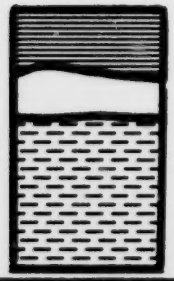
Site: Clinton Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18285	surface	2800	220	82		16	0.077	0.058	0.026	0.77	0.098	0.095	19	62	13	13	6.0
18284	surface	2400	210	71		14	0.074	0.050	0.017	0.72	0.095	0.093	19	55	12	12	<3.0
18283	surface	1900	170	39		11	0.078	0.044	0.014	0.75	0.062	0.075	36	41	10	9.6	<3.0
18282	surface	2000	160	37		11	0.077	0.044	0.014	0.50	0.062	0.071	37	37	8.9	9.3	<3.0
18281	mineral	1600	120	27		9.2	0.048	0.031	0.0058	0.39	0.041	0.061	41	30	8.1	6.6	<3.0
18280	mineral	1300	97	23		7.5	0.051	0.033	0.0066	0.39	0.041	0.065	41	21	6.4	7.6	<3.0
18279	mineral	860	58	16		4.8	0.044	0.028	0.0053	0.36	0.038	0.054	46	18	5.9	6.8	<3.0
18278	mineral	880	58	14		4.9	0.046	0.030	0.0054	0.37	0.035	0.056	42	20	5.4	7.3	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Morrison Dam Conservation Area

Location Code: 1001207

UTM: 17T 463200 4800400

Landform: till plain

Slope: level

Date: 81/06/16

Vegetation: white pine

Comments: pine needle litter layer

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18291	surface	0-25	10YR 3/2	10	52	39	7.5	7.0	3.0	2.5			<3.0		<0.080
18290	surface	0-25	10YR 3/2	11	57	32	7.4	6.9	2.0	2.3			<3.0		<0.080
18289	mineral	25-30	10YR 6/4	11	57	32	7.6	7.0	1.0	0.60			<3.0		<0.080
18288	mineral	30-35	5YR 4/4	5.0	36	59	7.6	7.0	1.0	0.50			<3.0		<0.080
18287	mineral	35-50	5YR 4/2	4.0	30	66	7.9	7.4	1.0	2.4			<3.0		<0.080
18286	mineral	35-50	5YR 4/2	16	29	54	7.9	7.4	1.0	0.80			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

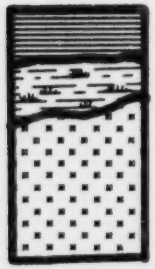
Site: Morrison Dam Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18291	surface	2500	220	140		15	0.091	0.044	0.014	0.84	0.13	0.039	<1.0	51	10	13	14
18290	surface	2200	210	160		13	0.091	0.046	0.013	0.81	0.12	0.039	<1.0	57	11	14	16
18289	mineral	1400	180	56		8.5	0.096	0.047	0.0035	0.76	0.11	0.026	<1.0	41	8.8	14	8.5
18288	mineral	2100	210	74		12	0.12	0.043	0.0035	1.2	0.18	0.047	<1.0	60	19	26	10
18287	mineral	2600	240	78		15	0.095	0.037	0.0040	1.3	0.19	0.056	<1.0	75	25	33	11
18286	mineral	2600	210	79		15	0.079	0.020	0.0046	1.2	0.17	0.053	3.0	66	24	30	10

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

0

12

mineral

30

45

mineral

65

Site: Rondeau Provincial Park

Location Code: 1001224

UTM: 17T 430200 4685350

Landform: sand spit

Slope: moderate slope

Date: 81/08/10

Vegetation: maple, beech, elm, birch, grasses

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18369	surface	0-12	10YR 2/1	85	5.0	11	7.5	7.1	10	3.2			4.0		<0.080
18368	surface	0-12	10YR 2/1	87	3.0	10	7.5	7.1	12	4.4			<3.0		0.17
18367	mineral	12-30	10YR 4/4	94	2.0	5.0	8.6	7.6	1.0	0.30			<3.0		<0.080
18366	mineral	12-30	10YR 4/4	89	2.0	9.0	8.5	7.6	1.0	0.40			<3.0		<0.080
18365	mineral	30-45	5Y 6/1	95	<1.0	5.0	8.8	7.7	<0.50	0.20			<3.0		<0.080
18364	mineral	30-45	5Y 6/1	92	<1.0	8.0	8.8	7.7	1.0	0.20			<3.0		<0.080
18363	mineral	45-65	5Y 6/1	93	<1.0	8.0	8.7	7.7	<0.50	<0.10			<3.0		<0.080
18362	mineral	45-65	5Y 6/1	97	<1.0	3.0	8.8	7.7	<0.50	<0.10			<3.0		<0.080

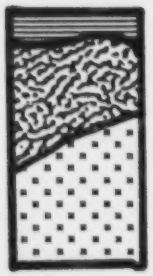
SOIL PROFILE INFORMATION (cont'd.)

Site: Rondeau Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18369	surface	2900	190	48		16	0.087	0.043	0.031	0.50	0.071	0.044	5.0	120	83	11	45
18368	surface	2500	160	46		14	0.11	0.052	0.042	0.70	0.085	0.061	7.0	150	96	12	51
18367	mineral	450	15	12		2.4	0.020	0.012	0.0043	0.27	0.020	0.013	22	27	100	7.6	3.6
18366	mineral	570	18	18		3.0	0.020	0.012	0.0041	0.28	0.017	0.012	21	27	80	8.2	<3.0
18365	mineral	310	10	12		1.6	0.019	0.0090	0.0041	0.24	0.020	0.011	21	26	72	12	5.5
18364	mineral	340	9.0	16		1.8	0.017	0.0090	0.0039	0.25	0.018	0.011	20	30	100	7.7	7.5
18363	mineral	230	7.0	19		1.2	0.021	0.0090	0.0036	0.24	0.017	0.012	23	22	37	6.2	7.9
18362	mineral	250	8.0	16		1.4	0.023	0.012	0.0036	0.24	0.020	0.012	21	19	25	6.2	4.3

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



surface mineral — 0, 10, 15
mineral — 35
mineral — 45

Site: C.M. Wilson Conservation Area

Location Code: 1001225

UTM: 17T 409100 4691700

Landform: kame moraine

Slope: level

Date: 81/08/10

Vegetation: maple, oak, elm

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18376	surface	0-9	5YR 2.5/2	33	41	27	7.1	6.7	3.0	3.7			5.0		0.21
18375	surface	0-9	5YR 2.5/2	33	41	26	7.2	6.8	3.0	3.7			5.0		0.19
18374	mineral	10-15	10YR 4/6	38	44	19	7.2	6.5	1.0	1.2			<3.0		0.76
18373	mineral	15-35	10YR 4/4	32	45	24	7.4	6.9	1.0	0.90			<3.0		<0.080
18372	mineral	15-35	10YR 4/4	32	37	30	7.6	6.9	1.0	0.90			<3.0		<0.080
18371	mineral	35-45	10YR 5/4	55	34	11	8.4	7.5	1.0	0.30			<3.0		<0.080
18370	mineral	35-45	10YR 5/4	44	40	16	8.2	7.5	1.0	0.40			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

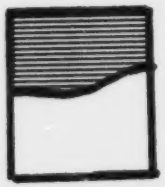
Site: C.M. Wilson Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18376	surface	2500	370	100		16	0.14	0.087	0.0030	0.47	0.14	0.0059	<1.0	40	13	9.7	3.4
18375	surface	2500	350	130		16	0.11	0.085	0.0033	0.45	0.14	0.0069	<1.0	32	6.6	6.7	13
18374	mineral	1000	300	24	<4.5	7.6	0.12	0.14	0.0014	0.51	0.22	0.0050	<1.0	30	5.6	8.7	6.0
18373	mineral	1100	300	26		8.1	0.11	0.085	0.0041	0.55	0.14	0.011	<1.0	30	6.6	9.2	3.3
18372	mineral	1400	500	28		11	0.14	0.088	0.0072	0.83	0.16	0.019	<1.0	39	8.6	12	7.3
18371	mineral	920	110	24		5.5	0.019	0.011	0.0028	0.43	0.045	0.016	23	21	9.6	9.1	4.5
18370	mineral	1400	170	26		8.6	0.029	0.016	0.0038	0.42	0.054	0.013	21	18	6.8	8.5	4.5

SOIL PROFILE INFORMATION

Horizon Depth (cm)

surface 0



15

mineral

Site: North Easthope Collector, Stratford Date: 81/08/06

Location Code: 1001226

UTM: 17T 509850 4805750 Vegetation: grasses

Landform: till plain Comments: A.P.I.O.S. rain collector site, soil below 15 cm depth not sampled

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18349	surface	0-15	10YR 3/2	17	46	37	6.4	5.8	3.0	2.3			<3.0		<0.080
18348	surface	0-15	10YR 3/2	17	50	34	6.5	5.8	3.0	2.5			5.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

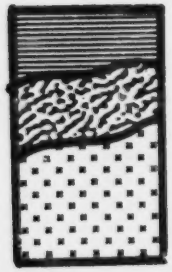
Site: North Easthope Collector, Stratford

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18349	surface	1900	240	100		12	0.19	0.12	0.015	0.86	0.17	0.058	<1.0	79	15	16	8.0
18348	surface	2000	260	130		12	0.19	0.11	0.017	0.84	0.17	0.054	<1.0	74	13	14	6.7

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0



20

mineral

35

mineral

60

Site: Parkhill Conservation Area

Location Code: 1001227

UTM: 17T 447550 4778800

Landform: sand plain/till plain

Slope: level

Date: 81/08/06

Vegetation: maple, beech, oak

Comments: iron stains throughout profile

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18355	surface	0-20	10YR 2/1	73	9.0	18	6.9	6.5	4.0	4.7			4.0		<0.080
18354	surface	0-20	10YR 2/1	66	10	24	7.1	6.8	3.0	5.0			5.0		<0.080
18353	mineral	20-35	10YR 6/6	78	4.0	18	8.7	7.7	<0.50	<0.10			<3.0		0.090
18352	mineral	20-35	10YR 6/6	73	5.0	22	8.6	7.7	<0.50	<0.10			<3.0		<0.080
18351	mineral	35-60	10YR 6/3	84	3.0	13	9.0	7.8	<0.50	<0.10			<3.0		<0.080
18350	mineral	35-60	10YR 6/3	80	4.0	16	9.0	7.8	<0.50	<0.10			5.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

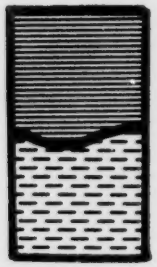
Site: Parkhill Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18355	surface	2400	220	39		14	0.089	0.076	0.034	0.54	0.12	0.15	<1.0	57	10	10	10
18354	surface	3000	260	39		17	0.10	0.087	0.043	0.50	0.11	0.12	<1.0	50	8.9	9.8	11
18353	mineral	270	14	8		1.5	0.021	0.0080	0.0011	0.28	0.025	0.013	27	7.3	5.5	3.3	<3.0
18352	mineral	280	14	7		1.6	0.026	0.0090	0.0013	0.25	0.022	0.019	29	8.4	4.7	4.6	<3.0
18351	mineral	210	11	7		1.2	0.017	0.0080	0.0014	0.22	0.017	0.0085	32	8.9	5.1	2.6	<3.0
18350	mineral	210	7	6		1.1	0.011	0.0050	0.0013	0.19	0.014	0.010	34	8.9	3.8	3.6	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0



20

mineral | 40

Site: Rock Glen Conservation Area

Location Code: 1001228

UTM: 17T 433400 4770450

Landform: clay plain

Slope: level

Date: 81/08/06

Vegetation: pine, maple, elm, grasses

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18359	surface	0-20	10YR 3/2	54	23	23	6.5	5.8	3.0	2.0			<3.0		<0.080
18358	surface	0-20	10YR 3/2	53	23	24	7.2	6.7	3.0	1.8			<3.0		0.10
18357	mineral	20-35	7.5YR 4/4	24	27	49	7.7	6.9	1.0	0.80			<3.0		<0.080
18356	mineral	20-35	7.5YR 4/4	26	26	49	7.7	6.9	1.0	0.80			<3.0		0.21

SOIL PROFILE INFORMATION (cont'd.)

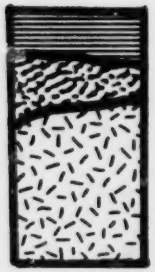
Site: Rock Glen Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18359	surface	400	300	120		4.7	0.14	0.046	0.020	0.89	0.11	0.028	<1.0	78	16	19	22
18358	surface	370	290	110		4.4	0.14	0.048	0.021	0.86	0.099	0.028	<1.0	76	16	19	19
18357	mineral	3000	390	100		17	0.097	0.040	0.0084	1.2	0.17	0.035	1.0	82	31	39	14
18356	mineral	3000	390	110		18	0.062	0.028	0.0067	1.2	0.18	0.035	1.0	74	30	36	11

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

0
20
35
130
190
300
600

Site: Wheatley Provincial Park

Location Code: 1001347

UTM: 17T 380500 4665000

Landform: till plain

Slope: nearly level

Date: 80/06/04

Vegetation: grass

Comments: on cliff, eroded by Lake Erie
Samples taken at various points
down cliff face, not by horizon

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9120	surface	0-20	10YR 3/1	51	22	27	8.3	7.7	1.5	0.87	12			430	
9121	surface	0-20	10YR 3/1	43	29	28	7.8	7.6	1.6	1.3	14			370	
9118	mineral	20-35	10YR 4/4	18	36	45	6.4	5.7	0.57	0.71	16			320	
9119	mineral	20-35	10YR 4/4	19	36	46	6.7	6.2	0.59	0.78	13			380	
9116	mineral	40	10YR 6/3	9.0	35	56	7.0	6.4	0.52	0.88	19			520	
9117	mineral	40	10YR 6/3	12	34	54	7.7	7.3	0.59	0.93	14			670	
9114	mineral	130	7.5YR 4/4	13	46	42	8.6	7.9	0.74	0.52	10			590	
9115	mineral	130	7.5YR 4/4	14	40	46	8.6	7.9	0.33	0.60	10			480	
9113	mineral	190	7.5YR 4/4	15	40	46	8.6	7.9	0.31	0.55	23			550	
9122	mineral	300	10YR 6/3	24	35	41	8.2	7.9	0.47	0.59	50			540	
9123	mineral	600	10YR 6/2	17	38	45	8.2	7.9	0.69	0.59				620	

SOIL PROFILE INFORMATION (cont'd.)

Site: Wheatley Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9120	surface	1500	37	100		7.8	0.070	0.020	0.0064	1.1	0.090	0.046	14	75	53	18	44
9121	surface	2000	79	84		10	0.020	<0.0020	0.0047	1.1	0.11	0.043	8.0	86	36	18	45
9118	mineral	1800	230	80		11	0.22	0.070	0.0013	1.8	0.22	0.018	<1.0	100	36	32	11
9119	mineral	1400	240	85		9.2	0.12	0.030	0.0080	1.6	0.21	0.021	<1.0	100	44	33	12
9116	mineral	2900	430	84		18	0.19	0.060	0.0016	1.8	0.22	0.065	<1.0	100	46	52	12
9117	mineral	3600	400	73		21	0.010	0.030	0.0028	1.8	0.21	0.052	<1.0	110	44	50	10
9114	mineral	1900	230	42		11	0.010	0.010	0.0037	1.1	0.090	0.034	23	61	40	30	7.6
9115	mineral	1800	240	37		11	0.010	<0.0020	0.0039	1.1	0.11	0.038	22	64	51	30	9.0
9113	mineral	1300	350	47		9.6	0.020	0.010	0.0037	1.0	0.070	0.034	28	58	41	28	7.0
9122	mineral	1800	200	63		11	0.030	0.010	0.0036	1.2	0.11	0.037	16	83	50	34	14
9123	mineral	3000	840	100		22	0.060	0.020	0.0031	0.94	0.060	0.027	22	86	69	38	10

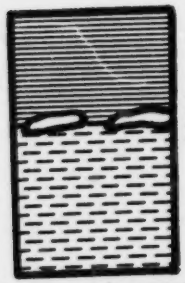
SOIL BASELINE ANALYTICAL DATA, 1980-1981

WEST CENTRAL REGION

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, A + B1

Location Code: 2001001

UTM: 17T 575400 4739750

Landform: clay plain

Slope: level

Date: 80/09/08

Vegetation: eastern white pine, white birch white ash

Comments: irregular, discontinuous bleached horizon at 18-20 cm (9797, 9798)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9801	surface	0-15	10YR 4/2	10	45	44	6.4	5.8	4.7	3.1	21			800	
9802	surface	0-15	10YR 4/2	7.0	45	48	6.4	5.8	4.3	3.1	17			760	
9797	surface mineral	18-20	10YR 5/4	5.0	35	60	6.0	5.5	1.0	0.88	11			570	
9798	surface mineral	18-20	10YR 5/4	9.0	42	49	6.1	5.5	1.6	1.5	11			710	
9799	mineral	20-30	7.5YR 5/4	4.0	25	71	5.8	5.3	0.81	0.94	12			660	
9800	mineral	20-30	7.5YR 5/4	4.0	24	71	5.8	5.4	0.80	0.93	13			630	
9795	mineral	30-40	7.5YR 5/4	2.0	16	82	6.0	5.7	0.76	0.90	21			670	
9796	mineral	30-40	7.5YR 5/4	2.0	17	81	5.8	5.4	0.64	0.84	19			710	

SOIL PROFILE INFORMATION (cont'd.)

Site: Nanticoke Seedling Plot, A + B1

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9801	surface	2900	180	140		16	0.21	0.080	0.049	1.1	0.15	0.10	<1.0	110	17	22	31
9802	surface	2900	170	130		16	0.21	0.080	0.044	1.2	0.16	0.11	<1.0	100	16	22	29
9797	surface mineral	2500	200	110		14	0.19	0.080	0.0067	1.5	0.19	0.058	<1.0	110	25	34	16
9798	surface mineral	2000	170	78		11	0.20	0.080	0.013	1.3	0.17	0.072	<1.0	97	20	26	18
9799	mineral	3100	300	130	<4.5	18	0.16	0.080	0.0036	1.6	0.21	0.039		110	33	37	11
9800	mineral	2700	270	130	<4.5	16	0.17	0.080	0.0047	1.7	0.23	0.050	<1.0	110	32	42	16
9795	mineral	3500	320	140		20	0.12	0.060	0.0050	1.9	0.24	0.053	<1.0	120	39	48	12
9796	mineral	3700	400	180	<4.5	22	0.11	0.060	0.0032	2.0	0.25	0.045	<1.0	120	40	48	15

SOIL PROFILE INFORMATION

Horizon

surface

mineral

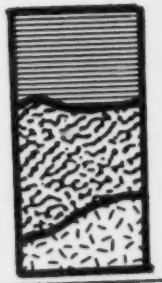
mineral

Depth (cm)

0

10

15



Site: Delhi

Location Code: 2001002

UTM: 17T 541100 4724650

Landform: sand plain

Slope: level

Date: 80/04/01

Vegetation: grass, pine, oak

Comments: cliff in farmer's field

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9003	surface	0-10	10YR 3/2	90	3.0	7.0	6.6	5.8	1.9	1.3	8.9			600	
9002	mineral	10-15	2.5YR 5/4	87	4.0	9.0	5.7	4.7	0.97	0.94	9.1			900	
9001	mineral	15+	5YR 6/6	92	3.0	5.0	6.5	5.7	0.17	0.29	7.8			780	

SOIL PROFILE INFORMATION (cont'd.)

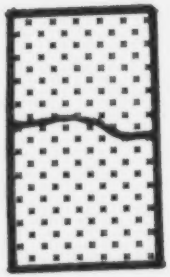
Site: Delhi

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9003	surface	940	79	51		5.5	0.070	0.090	0.044	0.37	0.13	0.055	<1.0	78	14	6.6	15
9002	mineral	340	110	22	6.0	2.6	0.11	0.15	0.053	0.40	0.17	0.064		57	11	36	5.6
9001	mineral	160	180	8.4		1.0	0.090	0.12	0.012	0.40	0.16	0.020	<1.0	42	11	21	7.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Long Point Provincial Park

Location Code: 2001003

UTM: 17T 550600 4713650

Landform: beach/shoreline

Slope: gently sloping

Date: 80/04/01

Vegetation: grass, pines

Comments: little noticeable change down the profile, 200 ft. from lake

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9005	surface mineral	0-15	10YR 4/1	90	2.0	9.0	8.4	7.8	0.16	0.23	4.9			560	
9004	mineral	15-30	10YR 6/1	92	1.0	7.0	8.7	7.8	0.050	<0.080	3.9			500	

SOIL PROFILE INFORMATION (cont'd.)

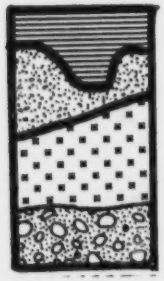
Site: Long Point Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9005	surface mineral	290	5.0	8.4		1.5	0.020	0.010	0.0030	0.20	0.016	0.010	21	23	8.5	68	5.9
9004	mineral	160	5.0	4.2		0.86	0.020	0.010	0.0030	0.30	0.016	0.0090	21	18	7.1	49	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

mineral

0
20
30
50
70
100

Site: Harriston

Location Code: 2001005

UTM: 17T 505200 4865800

Landform: spillway

Slope: nearly level

Date: 80/05/15

Vegetation: maple, grass

Comments: gravel pit, dry colors, stoney

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9019	surface	0-20	7.5YR 3/2	26	51	23	7.9	7.4	1.8	1.6	11			430	
9018	mineral	20-50	10YR 4/4	24	55	22	8.0	7.4	0.72	0.79	10			270	
9017	mineral	50-70	10YR 5/3	55	35	10	8.7	8.0	0.070	0.16				210	
9016	mineral	100+	10YR 6/3	75	18	8.0	8.7	7.8	0.13	0.23	5.3			250	
9022	surface	0-20		32	36	32	7.4	6.7	2.1	2.1	13			490	
9021	mineral	20-50		22	60	18	7.4	6.7	0.67	0.59	7.4			390	
9020	mineral	50-70		20	60	19	7.3	6.7	0.35	0.36	6.9			290	
9023	surface	0-5		37	41	22	6.8	6.2	5.0	2.8	14			160	
9024	surface	5-10		38	48	14	6.1	5.2	2.6	1.3	9.8			180	
9025	mineral	60-70		22	52	26	7.5	7.0	0.77	0.62	18			370	

SOIL PROFILE INFORMATION (cont'd.)

Site: Harriston

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9019	surface	1600	440	51		12	0.13	0.060	0.0083	1.0	0.15	0.060	2.0	54	13	10	12
9018	mineral	1000	260	13		7.2	0.28	0.14	0.0066	1.1	0.21	0.040	1.5	45	9.8	11	8.4
9017	mineral	320	66	13		2.2	0.010	<0.002	0.0015	0.59	0.027	0.012	63	21	17	14	5.4
9016	mineral	370	70	17		2.4	0.020	<0.002	0.0019	0.66	0.040	0.020	61	40	19	16	6.2
9022	surface	1600	410	51		12	0.15	0.080	0.0091	0.90	0.16	0.042	<1.0	51	12	9.7	12
9021	mineral	880	210	13		6.1	0.24	0.17	0.0058	0.27	0.20	0.032	<1.0	34	8.5	10	6.8
9020	mineral	980	270	17		5.0	0.14	0.11	0.0054	0.95	0.14	0.050	1.0	34	13	14	7.7
9023	surface	1900	740	43		16	0.35	0.19	0.0047	1.1	0.26	0.011	<1.0	42	10		13
9024	surface	870	330	22	10	7.1	0.42	0.36	0.0017	1.1	0.40	0.005	<1.0	42	11	10	7.6
9025	mineral	1300	530	30		11	0.13	0.11	0.0069	1.2	0.25	0.034	5.0	46	27	24	9.1

SOIL PROFILE INFORMATION

Horizon

surface

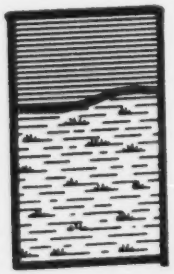
mineral

Depth (cm)

0

15

40



Site: Nanticoke Seedling Plot, C-4

Location Code: 2001109

UTM: 17T 553750 4738550

Landform: clay plain

Slope: level

Date: 80/09/26

Vegetation: eastern white pine, white birch, white ash

Comments: depth to watertable 35 cm., mottles (10YR 5/2) at 15-40 cm. depth

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9887	surface	0-15	10YR 3/2	9.0	46	46	6.3	5.8	6.8	6.2	29			1600	
9888	surface	0-15	10YR 3/2	7.0	36	57	6.3	5.8	6.3	4.6	23			1300	
9889	mineral	15-40	10YR 5/2	3.0	41	56	6.2	5.9	0.97	1.1	18			460	
9890	mineral	15-40	10YR 5/2				6.2	6.0	1.2	1.3	18			570	

SOIL PROFILE INFORMATION (cont'd.)

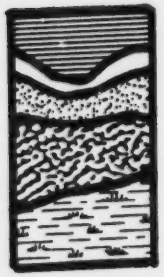
Site: Nanticoke Seedling Plot, C-4

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9887	surface	4200	600	190		26	0.37	0.20	0.036	1.8	0.26	0.15	<1.0	140	24	29	26
9888	surface	4100	580	130		25	0.38	0.19	0.032	1.7	0.26	0.14	<1.0	150	33	30	26
9889	mineral	2800	630	110		19	0.19	0.080	0.0037	1.9	0.20	0.037	<1.0	120	27	38	12
9890	mineral	2500	610	110		18	0.23	0.090	0.0047	1.8	0.19	0.052	<1.0	120	25	36	12

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Ball's Falls Conservation Area

Location Code: 20010011

UTM: 17T 631300 4776300

Landform: till moraine/limestone plain

Slope: nearly level

Date: 80/05/27

Vegetation: sugar maple

Comments: mottles at 40 cm (10YR 5/8), orchards nearby. Bleached horizon at 10-11 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9070	surface	0-10	7.5YR 2.5/0				4.4	4.0	18	5.7	43			480	
9069	mineral	10-11	5YR 6/1	20	65	15	4.8	3.8	1.2	0.68	10			140	
9068	mineral	11-15	10YR 3/4	17	68	15	4.9	4.0	1.2	1.3	15			340	
9067	mineral	15-25	10YR 6/4	22	61	17	5.3	4.3	0.56	0.38	14			230	
9066	mineral	25-40	5YR 6/3	34	54	22	5.4	4.6	0.15	0.33	24			330	
9071	surface	0-10		15	61	24	4.6	4.3	12	5.0	49			530	
9072	mineral	15-25		18	65	17	5.0	4.3	1.0	0.69	14			270	
9073	mineral	25-40		24	55	21	5.2	4.3	0.37	0.39	17			210	

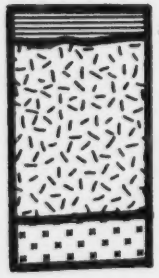
SOIL PROFILE INFORMATION (cont'd.)

Site: Ball's Falls Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9070	surface	3300	560	160	190	23	0.34	0.18	0.016	0.61	0.19	0.020		73	34	20	57
9069	mineral	470	130	54	330	6.8	0.11	0.050	0.00040	0.28	0.053	0.0020		15	23	2.3	<3.0
9068	mineral	390	100	53	320	6.1	0.49	0.20	0.00090	1.0	0.21	0.0030		33	31	6.4	<3.0
9067	mineral	200	46	47	210	3.6	0.27	0.13	<0.00010	0.84	0.13	0.0080		50	25	17	6.9
9066	mineral	470	100	42		3.3	0.18	0.060	0.0012	1.4	0.12	0.020		58	39	21	10
9071	surface	2300	420	180	49	16	0.40	0.16	0.015	0.73	0.17	0.018		63	54	17	38
9072	mineral	170	41	42	240	3.7	0.31	0.16	0.0012	0.82	0.16	0.0090		55	52	18	8.8
9073	mineral	380	86	37	180	4.4	0.19	0.080	0.00080	1.1	0.12	0.016		55	42	20	8.7

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Nelles Beach

Location Code: 2001012

UTM: 17T 618550 4783700

Landform: sand plain/shale plain

Slope: very strong slopes

Date: 80/05/28

Vegetation: grass, orchard

Comments: on 50 m cliff by Lake Ontario, previously managed

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9078	surface	0-35	10YR 5/4	19	65	16	6.8	6.2	1.2	1.4	13			860	
9081	surface	0-35	10YR 5/4	16	66	18	6.8	6.2	1.3	1.3	15			860	
9080	mineral	35-150	5YR 4/4	19	65	16	5.6	4.9	0.11	0.30	38			690	
9077	mineral	35-150	5YR 4/4	23	68	9.0	5.7	5.0	0.11	0.25	51			980	
9076	mineral	150-190	5YR 4/4	19	75	6.0	7.1	6.5	0.030	0.18	18			800	
9079	mineral	150-190	5YR 4/4	29	61	10	7.0	6.3	0.030	0.26	20			770	
9075	mineral	190-230	7.5YR 4/4	80	13	6.0	7.8	6.7	0.070	<0.14	9.1			720	
9074	mineral	230-290	5YR 4/1				8.3	7.7	0.23	0.38	79			800	

SOIL PROFILE INFORMATION (cont'd.)

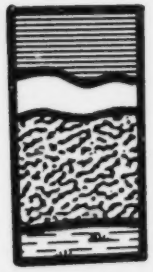
Site: Nelles Beach

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9078	surface	790	180	160		5.8	0.12	0.050	0.014	0.73	0.10	0.034	<1.0	70	36	15	30
9081	surface	1000	200	150		7.2	0.12	0.040	0.016	0.69	0.10	0.034	<1.0	67	33	15	31
9080	mineral	590	86	17	8.0	3.8	0.080	0.020	0.0019	0.93	0.060	0.061		45	31	18	4.0
9077	mineral	620	91	22	5.0	3.9	0.10	0.030	0.0024	1.0	0.090	0.064		44	31	18	4.5
9076	mineral	750	150	10		5.0	0.010	<0.0020	0.00040	0.79	0.060	0.058	1.0	40	22	17	4.0
9079	mineral	780	170	10		5.3	0.020	0.010	0.0011	0.88	0.060	0.067	1.0	42	24	16	4.1
9075	mineral	500	81	10		3.1	0.020	0.010	0.00070	0.76	0.060	0.070	1.5	38	38	14	3.1
9074	mineral	790	120	63		5.0	0.020	<0.0020	0.0069	0.45	0.22	0.025	18	61	54	25	7.5

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

mineral

Site: Chippawa Creek Conservation Area

Location Code: 2001013

UTM: 17T 620850 4761300

Landform: clay plain

Slope: level

Date: 80/05/28

Vegetation: maple, oak, grass

Comments: many coarse mottles (7.5YR 5/8), water seeping in at 60 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9085	surface	0-20	10YR 4/2	30	46	24	5.8	5.1	5.4	3.1	31			380	
9084	surface mineral	20-30	2.5YR 7/2	14	42	44	5.6	4.7	0.92	0.42	13			70	
9083	mineral	30-60	7.5YR 5/0	29	49	22	5.9	5.1	0.33	0.41	24			80	
9082	mineral	60+	2.5YR 6/0	9.0	36	55	8.4	7.9	0.29	0.59	32			670	
9089	mineral	0-20	10YR 4/2	29	47	24	5.6	5.0	4.6	2.7	29			320	
9088	mineral	20-30	2.5YR 7/2	31	49	20	5.6	4.7	0.96	0.49	13			100	
9087	mineral	30-60	7.5YR 5/0	24	41	35	5.9	5.1	0.35	0.41	35			150	
9086	mineral	60+	2.5YR 6/0	12	37	52	8.2	7.9	0.33	0.52	34			840	

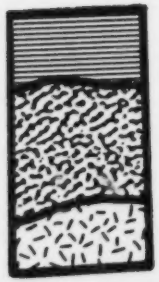
SOIL PROFILE INFORMATION (cont'd.)

Site: Chippawa Creek Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9085	surface	1900	300	243	7.0	13	0.26	0.13	0.0018	0.42	0.14	0.0080	<1.0	54	22	14	20
9084	surface mineral	340	120	42	62	3.4	0.080	0.060	0.00070	0.26	0.060	0.0020		20	16	6.1	5.7
9083	mineral	870	390	22	10	7.6	0.040	0.020	0.0013	0.37	0.050	0.0020		25	13	9.6	6.5
9082	mineral	3100	1000	21		23	0.010	0.010	0.0070	1.6	0.12	0.068	11	66	46	37	11
9089	mineral	1600	270	210	15	11	0.23	0.14	0.0046	0.43	0.14	0.0060		50	48	12	17
9088	mineral	340	120	53	62	3.4	0.080	0.070	0.00040	0.30	0.064	0.00090		22	15	6.8	6.8
9087	mineral	1300	81	32	14	7.2	0.090	0.030	0.0025	2.4	0.18	0.0090		41	28	18	9.7
9086	mineral	3000	840	21		22	0.010	0.010	0.0059	1.5	0.12	0.054	6.0	62	36	34	10

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



surface 0
20
surface/ mineral 40
60
mineral 70

Site: Christie Conservation Area

Location Code: 2001021

UTM: 17T 579850 4792400

Landform: sand plain/fluvial

Slope: nearly level

Date: 80/06/11

Vegetation: young maple, poplar, oak

Comments: near fish pond, Spencer Creek flood plain

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9162	surface	0-20	10YR 3/2	38	36	26	6.9	6.6	3.1	2.6	14			950	
9163	surface	0-20	10YR 3/2	41	37	23	7.2	6.6	3.2	2.9	15			1000	
9160	surface mineral	20-40	10YR 3/3	41	46	12	6.3	5.5	1.4	1.3	12			830	
9161	surface mineral	20-40	10YR 3/3	42	45	13	5.8	5.0	1.3	1.1	12			760	
9158	surface mineral	40-60	10YR 3/3	44	44	13	6.2	5.3	1.4	1.2	14			870	
9159	surface mineral	40-60	10YR 3/3	42	45	13	5.8	4.9	1.6	1.2	14			900	
9156	mineral	60-70	7.5YR 5/6	47	45	8.0	6.2	5.5	0.53	0.55	14			630	
9157	mineral	60-70	7.5YR 5/6	43	49	8.0	6.2	5.4	0.45	0.45	18			510	

SOIL PROFILE INFORMATION (cont'd.)

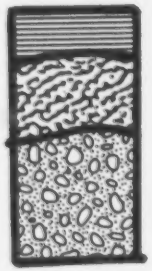
Site: Christie Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9162	surface	2000	410	130		14	0.10	0.040	0.025	1.0	0.17	0.073	<1.0	110	29	14	42
9163	surface	2000	410	140		14	0.10	0.040	0.027	1.1	0.18	0.079	<1.0	140	37	14	46
9160	surface mineral	900	220	68	<2.3	6.5	0.12	0.080	0.0086	1.0	0.24	0.054	<1.0	62	24	11	12
9161	surface mineral	600	160	79	3.0	4.5	0.12	0.070	0.011	1.1	0.24	0.079		62	29	11	14
9158	surface mineral	740	190	42	<2.3	5.3	0.17	0.090	0.0079	1.1	0.26	0.053	<1.0	58	24	11	10
9159	surface mineral	680	160	42	<2.3	4.8	0.18	0.11	0.0093	1.1	0.28	0.056		55	26	10	9.8
9156	mineral	270	56	27	<2.3	1.9	0.10	0.10	0.0019	0.92	0.27	0.024	<1.0	45	27	13	4.5
9157	mineral	200	56	32	<2.3	1.6	0.10	0.070	0.0026	1.1	0.30	0.039	<1.0	51	25	11	5.1

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0



14

mineral 20

mineral 70

Site: Guelph Lake Conservation Area

Location Code: 2001022

UTM: 17T 561000 4827250

Landform: till plain

Slope: gently sloping

Date: 80/06/12

Vegetation: grasses

Comments: many stones, all sizes at 20-70 cm depth

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9168	surface	0-14	10YR 3/2	42	34	24	7.9	7.4	2.7	2.8	10			960	
9169	surface	0-14	10YR 3/2	42	34	25	7.8	7.4	2.7	2.5	8.6			850	
9166	mineral	14-20	10YR 4/3	45	33	22	8.0	7.4	1.6	1.8	8.4			730	
9167	mineral	14-20	10YR 4/3	44	29	26	7.9	7.4	1.4	1.3	9.7			620	
9164	mineral	20-70	10YR 5/3	72	10	19	8.3	7.7	0.20	0.20	1.5			270	
9165	mineral	20-70	10YR 5/3	84	4.0	12	8.4	7.8	0.29	<0.15	1.3			310	

SOIL PROFILE INFORMATION (cont'd.)

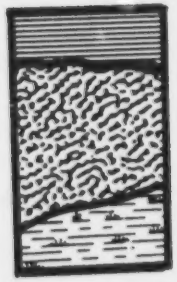
Site: Guelph Lake Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9168	surface	2200	540	240		16	0.070	0.030	0.012	1.1	0.16	0.10	3.0	140	28	12	31
9169	surface	2200	510	220		16	0.060	0.030	0.012	1.1	0.15	0.10	3.0	140	27	12	26
9166	mineral	1600	410	32		12	0.090	0.030	0.0084	1.0	0.15	0.092	5.0	120	18	11	27
9167	mineral	1800	510	43		13	0.090	0.030	0.0071	1.2	0.16	0.095	3.0	180	22	15	73
9164	mineral	400	75	16		2.6	0.010	<0.0020	0.0026	0.33	0.030	0.024	59	86	29	5.5	16
9165	mineral	340	75	11		2.3	0.010	<0.0020	0.0025	0.26	0.020	0.017	65	75	22	5.1	15

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Elora Gorge Conservation Area

Location Code: 2001023

UTM: 17T 544800 4835450

Landform: till plain

Slope: nearly level

Date: 80/06/12

Vegetation: deciduous forest

Comments: many fine mottles at 60-70 cm (10YR 5/6)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9174	surface	0-10	10YR 3/2	27	48	26	7.6	7.0	3.8	3.4	14			590	
9175	surface	0-10	10YR 3/2	25	50	25	7.4	7.0	4.9	3.8	14			620	
9172	mineral	10-60	10YR 5/4	32	50	19	7.9	7.3	0.39	0.75	5.2			620	
9173	mineral	10-60	10YR 5/4	30	50	20	7.8	7.3	0.49	0.58	6.4			670	
9170	mineral	60-70	10YR 6/1	41	44	14	8.1	7.4	0.080	<0.15	5.3			990	
9171	mineral	60-70	10YR 6/1	49	36	15	8.1	7.4		<0.14	4.1			910	

SOIL PROFILE INFORMATION (cont'd.)

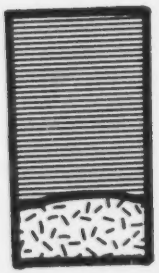
Site: Elora Gorge Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9174	surface	2900	720	42		20	0.14	0.11	0.021	1.1	0.16	0.054	1.0	150	43	13	14
9175	surface	3200	780	64		22	0.15	0.11	0.022	0.95	0.15	0.045	1.0	130	34	11	16
9172	mineral	1200	390	27		9.0	0.050	0.010	0.0024	0.97	0.13	0.063	1.0	87	33	12	6.4
9173	mineral	1300	460	27		10	0.070	0.020	0.0024	1.1	0.16	0.076		99	37	13	5.7
9170	mineral	900	280	27		6.0	0.030	0.010	0.0011	1.0	0.13	0.050	1.0	38	40	9.9	4.5
9171	mineral	800	250	27		6.0	0.020	<0.0020	0.00070	0.92	0.11	0.044	1.0	33	25	9.6	4.1

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Laurel Creek Conservation Area

Location Code: 2001024

UTM: 17T 534700 4814950

Landform: spillway

Slope: nearly level

Date: 80/06/12

Vegetation: maple forest

Comments: little ground vegetation, near A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9182	surface	0-10	7.5YR 4/2	44	31	25	6.6	5.9	2.6	0.41	12			620	
9183	surface	0-10	7.5YR 4/2	43	34	23	6.5	5.9	2.9	1.5	14			370	
9180	surface	10-30	7.5YR 4/2	44	33	23	6.9	6.3	1.2	1.1	7.6			420	
9181	surface	10-30	7.5YR 4/2	43	33	24	7.0	6.4	1.1	1.1	7.5			410	
9178	surface	30-50	7.5YR 3/2	49	30	21	7.0	6.1	0.86	0.84	6.4			360	
9179	surface	30-50	7.5YR 3/2	50	26	24	7.0	6.2	1.0	0.98	6.7			350	
9176	mineral	50-60	10YR 5/3	60	17	23	6.7	5.9	0.19	0.28	4.2			320	
9177	mineral	50-60	10YR 5/3				6.6	5.6	0.23	0.34	5.2			350	

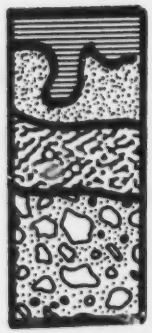
SOIL PROFILE INFORMATION (cont'd.)

Site: Laurel Creek Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9182	surface	1800	340	110		12	0.090	0.040	0.026	0.80	0.10	0.053	<1.0	76	28	12	14
9183	surface	1800	350	110		11	0.080	0.040	0.026	0.82	0.10	0.056	<1.0	68	20	11	13
9180	surface	1300	300	63		9.2	0.080	0.040	0.018	0.72	0.19	0.047	<1.0	65	24	10	8.6
9181	surface	1200	280	51		8.6	0.080	0.040	0.014	0.76	0.10	0.051	<1.0	68	27	11	8.2
9178	surface	940	220	25		6.5	0.12	0.050	0.0062	0.71	0.12	0.056	<1.0	63	29	8.4	5.9
9179	surface	940	220	21		6.4	0.14	0.070	0.0072	0.70	0.12	0.055	<1.0	66	31	8.6	5.9
9176	mineral	280	93	16		2.1	0.060	0.030	0.0028	0.47	0.060	0.039	<1.0	42	23	7.7	4.4
9177	mineral	280	98	16		2.2	0.10	0.060	0.0049	0.52	0.090	0.042	<1.0	46	27	8.0	5.1

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



surface — 0
mineral — 20
mineral — 40
mineral — 60
mineral — 100

Site: Orangeville Reservoir Conservation Area Date: 80/07/02

Location Code: 2001042

UTM: 17T 574100 4864750

Landform: spillway

Slope: nearly level

Vegetation: maple, grasses

Comments: limestone rocks in pit, many stones and rocks

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9329	surface	0-20	10YR 4/2	34	42	24	6.6	5.9	4.4	2.4	11			790	
9330	surface	0-20	10YR 4/2	37	45	18	6.5	5.8	4.2	2.0	10			740	
9327	mineral	20-40	10YR 4/3	45	34	20	6.4	5.3	1.0	0.48	3.9			570	
9328	mineral	20-40	10YR 4/3	45	34	20	6.4	5.7	1.1	0.79	5.1			750	
9325	mineral	40-60	10YR 5/4	74	19	7.0	6.9	5.8	0.37	<0.14	1.3			520	
9326	mineral	40-60	10YR 5/4	80	15	6.0	6.4	5.4	0.65	0.29	1.6			630	
9323	mineral	60-100	7.5YR 4/4	81	10	9.0	7.2	6.5	0.53	0.32	2.1			420	
9324	mineral	60-100	7.5YR 4/4	81	10	10	7.8	7.4	0.40	<0.11	1.5			550	

SOIL PROFILE INFORMATION (cont'd.)

Site: Orangeville Reservoir

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al	100g	Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9329	surface	2300	450	53		15	0.30	0.17	0.016	0.81	0.30	0.037	<1.0	62	15	5.4	8.0
9330	surface	2100	310	61		13	0.28	0.16	0.012	0.86	0.31	0.032	<1.0	62	15	5.9	8.7
9327	surface mineral	760	120	95	<4.5	5.0	0.22	0.22	0.0056	0.70	0.26	0.018	<1.0	55	13	8.9	7.5
9328	surface mineral	1100	120	56		6.8	0.23	0.15	0.0067	1.0	0.32	0.032	<1.0	52	16	13	7.4
9325	mineral	330	63	19		2.2	0.080	0.080	0.0036	0.41	0.12	0.013	<1.0	23	16	53	4.8
9326	mineral	410	57	12	3.2	2.6	0.080	0.11	0.0054	0.44	0.18	0.019	<1.0	25	16	9.9	3.1
9323	mineral	660	72	27		3.9	0.070	0.050	0.0075	0.35	0.13	0.027	1.0	22	13	6.0	4.0
9324	mineral	720	53	27		4.1	0.040	0.040	0.0045	0.42	0.071	0.021	10	22	28	62	<3.0

SOIL PROFILE INFORMATION

Site: Waterford Lakes Conservation Area

Date: 80/07/17

Location Code: 2001058

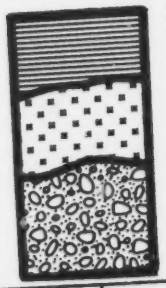
UTM: 17T 555650 4753910

Vegetation: balsam fir, poplar, grasses, wild grape

Comments: very stoney at 30-60 cm

Landform: moraine

Slope: nearly level



Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9467	surface	0-14	10YR 4/1	60	20	20	7.8	7.4	3.0	2.4	6.9			1000	
9468	surface	0-14	10YR 4/1	55	22	23	7.8	7.4	3.2	2.6	7.6			1000	
9465	mineral	14-30	10YR 6/4	70	15	16	8.2	7.6	0.43	0.38	3.7			770	
9466	mineral	14-30	10YR 6/4	71	13	16	8.4	7.8	0.39	0.26	8.3			720	
9463	mineral	30-50	10YR 5/3	75	14	11	8.4	7.8	0.25	0.24	11			400	
9464	mineral	30-50	10YR 5/3	66	20	14	8.2	7.6	0.43	0.39	4.4			800	

SOIL PROFILE INFORMATION (cont'd.)

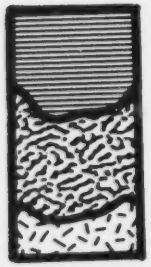
Site: Waterford Lakes Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9467	surface	2000	180	140		12	0.030	0.010	0.026	0.67	0.080	0.049	8.0	69	22	8.6	18
9468	surface	2100	190	330		13	0.030	<0.0020	0.031	0.70	0.090	0.052	8.0	70	26	8.5	21
9465	mineral	830	60	32		4.7	0.050	0.020	0.0092	0.55	0.070	0.049	10	43	18	43	6.2
9466	mineral	830	69	35		4.9	0.020	0.010	0.0063	0.76	0.070	0.072	30	79	40	30	13
9463	mineral	700	58	30		4.0	0.020	0.010	0.0060	0.69	0.070	0.050	31	72	29	34	11
9464	mineral	780	67	30		4.5	0.050	0.030	0.0085	0.40	0.050	0.035	11	44	21	27	6.1

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

Site: Norfolk Conservation Area

Location Code: 2001059

UTM: 17T 559950 4732900

Landform: clay plain

Slope: level

Date: 80/07/17

Vegetation: sugar maple, red oak, eastern cottonwood, ironwood

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9475	surface	0-30	10YR 3/3	25	44	31	6.2	5.5	3.1	2.4	17			750	
9476	surface	0-30	10YR 3/3	32	43	26	6.2	5.5	2.8	2.2	14			700	
9473	mineral	30-35	10YR 5/4	33	43	25	6.3	5.5	1.3	1.0	13			510	
9474	mineral	30-35	10YR 5/4	29	53	18	6.2	5.4	1.6	1.2	15			440	
9471	mineral	35-45	10YR 5/4	25	51	24	6.5	5.8	0.61	0.48	11			450	
9472	mineral	35-45	10YR 5/4				6.5	5.7	0.70	0.55	14			420	
9469	mineral	45-60	10YR 4/3	17	36	47	6.7	6.2	0.32	0.48	17			780	
9470	mineral	45-60	10YR 4/3	12	47	41	7.0	6.3	0.43	0.53	18			800	

SOIL PROFILE INFORMATION (cont'd.)

Site: Norfolk Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9475	surface	1500	180	140		9.3	0.27	0.13	0.016	0.77	0.16	0.024	<1.0	62	17	13	11
9476	surface	1300	160	120		8.2	0.26	0.12	0.013	0.69	0.15	0.021	<1.0	58	21	12	8.7
9473	mineral	910	110	22		5.5	0.24	0.12	0.0067	0.79	0.16	0.023	<1.0	54	18	13	4.4
9474	mineral	1100	140	41	<2.3	6.3	0.25	0.13	0.0081	0.78	0.16	0.022	<1.0	54	13	12	3.8
9471	mineral	1000	130	25		6.2	0.17	0.070	0.0042	0.97	0.14	0.037	<1.0	60	28	17	6.1
9472	mineral	800	100	20		4.8	0.19	0.090	0.0048	0.81	0.13	0.027	<1.0	53	16	14	3.4
9469	mineral	2200	280	35		13	0.080	0.020	0.0024	1.4	0.17	0.061	<1.0	83	36	30	9.3
9470	mineral	2300	280	38		14	0.070	0.020	0.0022	1.5	0.17	0.066	<1.0	76	34	28	8.0

SOIL PROFILE INFORMATION

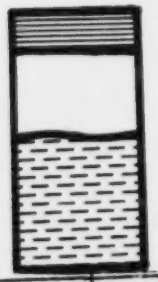
Horizon

surface

mineral

mineral

Depth (cm)



Site: Selkirk Provincial Park

Location Code: 2001060

UTM: 17T 585200 4740900

Landform: clay plain

Slope: simple, class 1, level

Date: 80/07/17

Vegetation: white pine, red oak, grasses

Comments: bleached horizon at 10-20 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9481	surface	0-10	10YR 4/1	15	25	60	6.4	5.9	4.7	3.2	14			750	
9432	surface	0-10	10YR 4/1	12	39	48	6.3	5.8	4.5	5.2	14			820	
9479	mineral	10-20	10YR 7/3	4.0	54	43	5.0	4.2	0.84	0.71	7.1			460	
9480	mineral	10-20	10YR 7/3	4.0	51	44	5.0	4.2	0.70	0.72	6.9			440	
9477	mineral	20-40	5YR 4/4	2.0	21	77	4.8	4.4	0.69	0.84	14			610	
9478	mineral	20-40	5YR 4/4	1.0	22	77	4.8	4.3	0.47	0.76	14			640	

SOIL PROFILE INFORMATION (cont'd.)

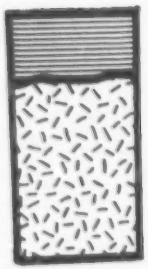
Site: Selkirk Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9481	surface	2300	290	160		14	0.19	0.080	0.75	0.95	0.16	0.10	<1.0	100	19	20	32
9482	surface	2300	260	150		14	0.17	0.080	0.066	0.93	0.16	0.10	<1.0	100	25	21	36
9479	mineral	670	120	73	330	7.8	0.20	0.12	0.0079	1.1	0.15	0.036		90	30	26	8.7
9480	mineral	780	130	59	380	8.9	0.19	0.13	0.0076	1.2	0.18	0.038		91	25	28	6.9
9477	mineral	2400	370	110	310	18	0.18	0.11	0.0050	1.8	0.25	0.044		110	50	49	9.9
9478	mineral	2000	340	130	390	17	0.16	0.12	0.0050	1.9	0.25	0.047		110	45	48	8.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: La Fortune Conservation Area

Location Code: 2001061

UTM: 17T 581450 4772150

Landform: clay plain

Slope: level

Date: 80/07/17

Vegetation: red maple, scotch pine, dogwood, white ash

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9487	surface	0-12	10YR 3/2	3.0	48	49	6.7	6.3	5.3	3.5	20			910	
9488	surface	0-12	10YR 3/2	3.0	49	48	6.7	6.3	5.6	3.6	22			950	
9485	mineral	12-20	10YR 4/3	2.0	54	44	6.4	5.7	0.51	0.74	18			530	
9486	mineral	12-20	10YR 4/3	2.0	54	44	6.4	6.0	0.70	0.80	8.2			520	
9483	mineral	20-40	10YR 5/4	2.0	48	50	6.6	6.2	0.43	0.53	14			730	
9484	mineral	20-40	10YR 5/4	1.0	47	52	6.6	5.9	0.29	0.50	14			680	

SOIL PROFILE INFORMATION (cont'd.)

Site: La Fortune Conservation Area

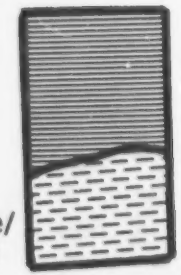
Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9487	surface	3700	450	210		22	0.19	0.060	0.065	1.5	0.18	0.14	<1.0	130	48	37	23
9488	surface	3800	460	190		23	0.25	0.060	0.067	1.5	0.19	0.15	<1.0	130	42	36	26
9485	mineral	1900	240	100		12	0.11	0.040	0.0054	1.7	0.17	0.067	<1.0	92	53	41	6.7
9486	mineral	2000	280	130		12	0.13	0.040	0.015	1.6	0.16	0.072	<1.0	96	59	38	7.8
9483	mineral	2900	290	78		17	0.090	0.020	0.0065	1.7	0.16	0.066	<1.0	96	43	42	7.1
9484	mineral	2400	280	95		14	0.080	0.020	0.0045	1.7	0.16	0.070	<1.0	96	43	42	5.4

SOIL PROFILE INFORMATION

Horizon

surfce

surface/ mineral



Depth (cm)

0

10

25

40

Site: Nanticoke Seedling Plot, D-2

Location Code: 2001094

UTM: 17T 583300 4743900

Landform: clay plain

Slope: level

Date: 80/09/08

Vegetation: eastern white pine, white birch, white ash

Comments: faint horizonation

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9787	surface	0-10	2.5Y 5/2	5.0	29	66	6.4	6.0	3.6	2.6	20			590	
9788	surface	0-10	2.5Y 5/2	6.0	29	65	6.6	6.2	3.6	3.5	29			710	
9785	surface	10-25	7.5YR 4/2	4.0	30	66	6.5	5.9	2.8	2.4	15			600	
9786	surface	10-25	7.5YR 4/2	4.0	31	64	6.4	5.9	2.8	2.3	16			640	
9783	surface mineral	25-40	7.5YR 3/2	2.0	19	80	6.5	6.1	1.1	1.1	16			390	
9784	surface mineral	25-40	7.5YR 3/2	1.0	17	82	6.6	6.2	1.1	1.3	19			390	

SOIL PROFILE INFORMATION (cont'd.)

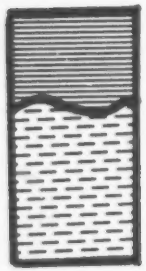
Site: Nanticoke Seedling Plot, D-2

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9787	surface	3100	500	200		20	0.14	0.080	0.016	1.8	0.24	0.11	<1.0	120	29	36	22
9788	surface	3300	540	260		21	0.14	0.080	0.018	1.7	0.22	0.11	<1.0	110	26	35	22
9785	surface	3300	510	110		21	0.18	0.10	0.022	1.7	0.23	0.10		110	25	36	19
9786	surface	3200	520	130		20	0.18	0.10	0.025	1.8	0.23	0.11	<1.0	110	30	39	21
9783	surface mineral	3300	760	69		23	0.18	0.090	0.0087	1.8	0.24	0.055	<1.0	110	33	47	13
9784	surface mineral	3400	720	64		23	0.15	0.070	0.0099	1.8	0.25	0.063	<1.0	110	34	49	14

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

0

25

mineral

Site: Nanticoke Seedling Plot, E-4

Location Code: 2001097

UTM: 17T 602500 4745150

Landform: clay plain

Slope: level

Date: 80/09/08

Vegetation: eastern white pine, white birch, white ash

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9819	surface	0-10	10YR 5/2	11	40	49	6.7	6.2	3.2	2.7	21			590	
9820	surface	0-10	10YR 5/2	10	40	50	6.6	6.1	2.8	2.2	13			570	
9817	surface	10-25	10YR 5/2	10	35	55	6.4	5.9	2.2	1.8	11			490	
9818	surface	10-25	10YR 5/2	11	39	50	6.5	5.9	2.6	2.1	11			610	
9815	mineral	25+	7.5YR 5/2	4.0	29	67	6.0	5.6	0.82	1.1	12			440	
9816	mineral	25+	7.5YR 5/2	4.0	26	70	6.1	5.6	0.80	0.99	12			430	

SOIL PROFILE INFORMATION (cont'd.)

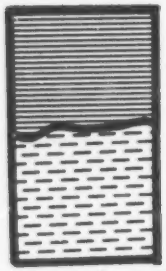
Site: Nanticoke Seedling Plot, E-4

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9819	surface	2700	640	180		19	0.18	0.070	0.83	1.7	0.22	0.11	<1.0	110	23	31	35
9820	surface	2500	600	140		18	0.17	0.070	0.23	1.5	0.22	0.082	<1.0	110	23	31	27
9817	surface	2500	580	92		17	0.20	0.070	0.24	1.7	0.23	0.11	<1.0	110	24	34	30
9818	surface	2400	570	100		17	0.20	0.070	0.24	1.7	0.23	0.10	<1.0	110	20	32	29
9815	mineral	2800	730	87		20	0.18	0.070	0.0071	1.4	0.22	0.040	<1.0	110	29	45	17
9816	mineral	2800	730	92		20	0.19	0.060	0.0072	1.7	0.25	0.070	<1.0	140	31	45	20

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, E-3

Location Code: 2001098

UTM: 17T 590950 4742800

Landform: clay plain

Slope: level

Date: 80/09/08

Vegetation: eastern white pine, white birch white ash

Comments: faint mottling in subsurface mineral horizons, area previously ploughed

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9813	surface	0-10	10YR 5/2	14	38	47	6.1	5.4	3.1	2.8	17			760	
9814	surface	0-10	10YR 5/2	17	38	45	6.0	5.4	2.3	2.3	12			790	
9811	surface	10-25	10YR 5/2	15	43	42	6.0	5.4	2.1	1.2	11			620	
9812	surface	10-25	10YR 5/2	16	43	41	6.1	5.5	2.2	2.1	12			680	
9809	mineral	25+	10YR 4/4	6.0	32	62	6.1	5.6	0.59	0.80	15			550	
9810	mineral	25+	10YR 4/4	8.0	36	56	5.8	5.4	0.61	0.72	15			410	

SOIL PROFILE INFORMATION (cont'd.)

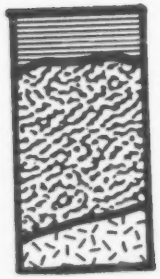
Site: Nanticoke Seedling Plot, E-3

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9813	surface	2600	400	200	<4.5	17	0.30	0.11	0.041	1.7	0.23	0.10	<1.0	110	19	25	28
9814	surface	2200	390	200	<4.5	15	0.30	0.10	0.036	1.6	0.23	0.10	<1.0	110	18	23	24
9811	surface	2400	380	130	<4.5	15	0.30	0.14	0.033	1.8	0.25	0.11	<1.0	110	21	25	25
9812	surface	2100	380	110		14	0.28	0.11	0.030	1.8	0.25	0.12	<1.0	110	25	24	28
9809	mineral	2600	630	77		18	0.14	0.070	0.0055	1.5	0.22	0.053		100	32	39	13
9810	mineral	1900	280	120	6.0	12	0.16	0.070	0.0056	1.6	0.22	0.053	<1.0	98	27	35	13

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

0

15

40

50

70

Site: Nanticoke Seedling Plot, B-4

Location Code: 2001099

UTM: 17T 574700 4740550

Landform: sand plain

Slope: level

Date: 80/08/11

Vegetation: eastern white pine, white birch white ash

Comments: no stones, previously ploughed

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9827	surface	0-15	10YR 3/2	83	9.0	8.0	6.1	5.2	3.9	0.94	11			440	
9828	surface	0-15	10YR 3/2	83	9.0	8.0	6.0	5.1	3.6	0.75	14			420	
9825	mineral	15-40	10YR 5/8	94	4.0	1.0	6.6	5.6	1.6	0.36	12			210	
9826	mineral	15-40	10YR 5/8	96	2.0	1.0	6.5	5.6	1.6	0.30	19			200	
9823	mineral	40-50	10YR 5/8	97	2.0	1.0	6.5	5.5	0.82	0.28	5.7			240	
9824	mineral	40-50	10YR 5/8	97	2.0	1.0	6.5	5.5	0.90	0.21	7.8			190	
9821	mineral	50-70	10YR 7/8	95	2.0	3.0	6.5	5.5	0.17	<0.14	3.7			200	
9822	mineral	50-70	10YR 7/8	88	1.0	11	6.4	5.4	0.37	0.17	5.2			240	

SOIL PROFILE INFORMATION (cont'd.)

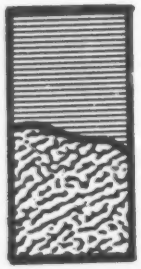
Site: Nanticoke Seedling Plot, B-4

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9827	surface	340	18	54	8.0	2.0	0.16	0.39	0.0025	0.86	0.59	0.0090	<1.0	52	9	6.9	15
9828	surface	340	27	65	11	2.2	0.13	0.30	0.0021	0.86	0.61	0.0090	<1.0	52	18	5.9	16
9825	mineral	190	11	36		1.1	0.080	0.27	0.00040	0.76	0.58	0.0080	<1.0	48	18	12	9.6
9826	mineral	200	9.0	36		1.2	0.080	0.25	0.00040	0.82	0.61	0.0080	<1.0	50	20	12	12
9823	mineral	110	11	26		0.71	0.050	0.21	0.00040	0.47	0.34	0.0080	<1.0	29	10	8.6	6.6
9824	mineral	130	9.0	24		0.76	0.040	0.20	0.00040	0.49	0.32	0.0070	<1.0	37	14	11	10
9821	mineral	69	50	27	<2.3	0.82	0.040	0.10	0.010	0.25	0.14	0.080	<1.0	14	12	3.2	<3.0
9822	mineral	69	9.0	32	<2.3	<0.50	0.070	0.17	0.018	0.42	0.24	0.020	<1.0	24	12	7.3	5.5

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

0
10
30
40

Site: Nanticoke Seedling Plot, B-3

Location Code: 2001100

UTM: 17T 566000 4749850

Landform: clay plain

Slope: level

Date: 80/09/11

Vegetation: eastern white pine, white birch white ash, grass

Comments: evidence of previous ploughing

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9833	surface	0-10	10YR 3/2	8.0	64	28	7.2	6.8	2.5	1.9	11			630	
9834	surface	0-10	10YR 3/2	8.0	64	28	7.2	6.7	2.6	2.1	15			680	
9831	surface	10-30	10YR 3/3	7.0	63	30	7.3	6.8	2.1	1.6	9.6			680	
9832	surface	10-30	10YR 3/3	7.0	65	28	7.2	6.7	2.4	1.7	12			620	
9829	mineral	30-40	10YR 5/4	3.0	64	33	7.2	6.7	0.96	0.85	8.4			780	
9830	mineral	30-40	10YR 5/4	3.0	62	35	7.3	6.8	0.73	0.72	9.2			820	

SOIL PROFILE INFORMATION (cont'd.)

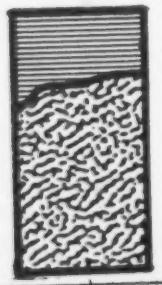
Site: Nanticoke Seedling Plot, B-3

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9833	surface	3200	310	96		19	0.060	0.050	0.019	1.3	0.18	0.091	<1.0	88	30	24	17
9834	surface	3400	350	120		20	0.060	0.040	0.021	1.2	0.16	0.087	<1.0	95	32	25	16
9831	surface	3100	200	48		17	0.070	0.050	0.014	1.3	0.18	0.096	<1.0	93	39	24	13
9832	surface	3100	240	48		18	0.070	0.050	0.018	1.4	0.18	0.090	<1.0	88	29	23	14
9829	mineral	2600	190	51		14	0.080	0.050	0.0056	1.3	0.19	0.064	<1.0	88	35	30	10
9830	mineral	2000	190	58		13	0.070	0.040	0.0053	1.4	0.18	0.066	<1.0	90	44	32	11

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, B-2

Location Code: 2001101

UTM: 17T 5700800 4747400

Landform: clay plain

Slope: level

Date: 80/09/11

Vegetation: eastern white pine, white birch white ash

Comments: faint mottles in subsurface mineral horizon, mottle colour 10YR 5/8, evidence of previous ploughing

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9839	surface	0-10	10YR 4/3	30	44	26	7.1	6.5	2.2	1.7	13			510	
9840	surface	0-10	10YR 4/3	30	43	27	7.1	6.7	2.7	1.8	17			540	
9837	surface	10-20	10YR 5/3	31	42	28	7.1	6.6	1.7	1.2	8.5			450	
9838	surface	10-20	10YR 5/3	30	42	28	7.1	6.6	1.8	1.3	9.0			490	
9835	mineral	20+	10YR 4/3	15	35	49	7.0	6.6	0.45	0.73	13			500	
9836	mineral	20+	10YR 4/3				7.1	6.6	0.29	0.75	9.7			470	

SOIL PROFILE INFORMATION (cont'd.)

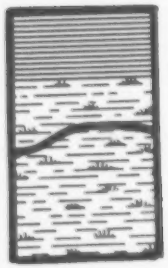
Site: Nanticoke Seedling Plot, B-2

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9839	surface	2100	240	100		12	0.070	0.020	0.0055	1.1	0.17	0.030	<1.0	82	20	17	16
9840	surface	2200	240	140		13	0.070	0.020	0.0066	1.1	0.16	0.027	<1.0	87	17	18	19
9837	surface	2100	230	48		12	0.090	0.030	0.0054	1.2	0.17	0.039	<1.0	85	23	17	14
9838	surface	2200	220	58		13	0.070	0.020	0.0043	1.0	0.16	0.026	<1.0	86	30	16	14
9835	mineral	2600	42	47		13	0.10	0.040	0.0035	1.6	0.19	0.054	<1.0	120	31	33	12
9836	mineral	1700	340	41		12	0.12	0.050	0.0030	1.5	0.19	0.067	<1.0	130	22	24	11

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, D-4

Location Code: 2001103

UTM: 17T 596300 4755200

Landform: clay plain

Slope: level

Date: 80/09/12

Vegetation: eastern white pine, white birch, white ash

Comments: many, medium mottles (5YR 6/8) in subsurface mineral horizon, faint mottles (10YR 6/8) in surface horizon. Previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9857	surface	0-12	10YR 4/3	8.0	51	41	5.3	4.7	5.3	4.3	49			930	
9858	surface	0-12	10YR 4/3	9.0	50	41	5.3	4.6	5.1	3.7	47			850	
9855	surface	12-20	10YR 4/1	7.0	53	40	5.3	4.6	2.8	2.2	26			670	
9856	surface	12-20	10YR 4/1	9.0	51	40	5.4	4.6	4.2	2.9	36			830	
9853	mineral	20-40	10YR 6/2	2.0	45	53	5.0	4.4	0.63	0.90	35			380	
9854	mineral	20-40	10YR 6/2	2.0	49	50	5.1	4.4	0.85	0.92	30			330	

SOIL PROFILE INFORMATION (cont'd.)

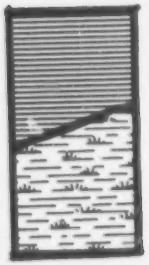
Site: Nanticoke Seedling Plot, D-4

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9857	surface	1500	300	130	55	11	0.52	0.19	0.027	1.4	0.27	0.032		120	21	25	25
9858	surface	1500	280	110	54	11	0.49	0.20	0.028	1.3	0.27	0.031		110	21	24	22
9855	surface	1100	270	87	140	9.3	0.35	0.20	0.0098	1.3	0.26	0.013		97	21	22	12
9856	surface	1300	280	110	99	9.8	0.44	0.23	0.021	1.2	0.28	0.024		110	24	23	15
9853	mineral	840	330	120	260	9.8	0.26	0.16	0.0008	2.2	0.25	0.0040		91	27	30	12
9854	mineral	840	300	150	250	9.5	0.24	0.16	0.0012	1.7	0.23	0.0030		90	25	29	9.8

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, D-3

Location Code: 2001104

UTM: 17T 590000 4749400

Landform: clay plain

Slope: level

Date: 80/09/12

Parent Material: lacustrine clay

Vegetation: eastern white pine, white birch, white ash, grasses

Comments: many, small mottles (10YR 5/8) in subsurface mineral horizon, previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9863	surface	0-10	10YR 4/1	14	38	48	6.8	6.4	4.2	3.4	37			2200	
9864	surface	0-10	10YR 4/1				6.8	6.4	4.3	3.3	50			2900	
9861	surface	10-22	10YR 4/2	14	37	49	7.0	6.5	2.9	2.6	39			2800	
9862	surface	10-22	10YR 4/2	13	39	48	6.9	6.5	3.0	2.8	45			2700	
9859	mineral	22-45	10YR 5/2	5.0	30	65	7.4	7.1	0.68	0.87	120			850	
9860	mineral	22-45	10YR 5/2	5.0	30	65	7.3	7.0	0.92	1.0	91			1100	

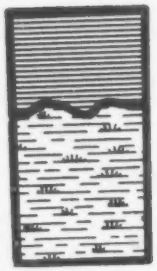
SOIL PROFILE INFORMATION (cont'd.)

Site: Nanticoke Seedling Plot, D-3

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9863	surface	2800	610	640		21	0.49	0.10	0.018	1.9	0.20	0.089	<1.0	160	41	29	32
9864	surface	2900	610	640		21	0.50	0.10	0.019	1.9	0.20	0.10	<1.0	160	42	29	31
9861	surface	2500	620	830		19	0.48	0.080	0.011	1.8	0.20	0.082	<1.0	140	30	31	24
9862	surface	2600	620	800		20	0.51	0.090	0.012	1.8	0.20	0.085	<1.0	150	35	31	26
9859	mineral	1600	830	830		17	0.19	0.050	0.0050	1.6	0.18	0.051	1.0	120	41	46	14
9860	mineral	2000	800	800		19	0.22	0.050	0.0083	1.7	0.20	0.070	2.0	120	31	39	13

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Nanticoke Seedling Plot, A-2

Location Code: 2001105

UTM: 17T 569000 4739100

Landform: clay plain

Slope: level

Date: 80/09/12

Vegetation: eastern white pine, white birch
white ash

Comments: many mottles (10YR 5/8) in subsurface mineral horizon, previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9869	surface	0-10	10YR 4/2	19	42	39	7.0	6.6	5.0	3.5	13			850	
9870	surface	0-10	10YR 4/2	19	44	37	7.0	6.7	4.9	3.2	19			770	
9867	surface	10-20	10YR 3/1	18	45	37	7.1	6.6	3.7	2.7	15			660	
9868	surface	10-20	10YR 3/1	18	45	37	7.1	6.6	4.4	3.0	21			780	
9865	mineral	20-35	10YR 4/1	15	58	26	7.3	6.9	0.77	0.63	12			250	
9866	mineral	20-35	10YR 4/1	14	46	40	7.3	7.0	0.78	0.66	13			260	

SOIL PROFILE INFORMATION (cont'd.)

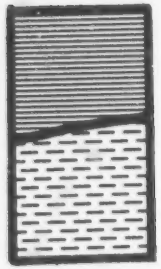
Site: Nanticoke Seedling Plot, A-2

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9869	surface	3400	380	160		21	0.21	0.070	0.036	1.2	0.16	0.066	<1.0	160	24	22	44
9870	surface	3400	390	140		21	0.20	0.070	0.030	1.2	0.16	0.060	<1.0	160	23	22	44
9867	surface	3000	350	110		18	0.19	0.060	0.016	1.3	0.16	0.059	<1.0	160	30	22	34
9868	surface	3300	370	150		20	0.18	0.060	0.019	1.2	0.16	0.063	<1.0	170	25	19	39
9865	mineral	1700	330	58		11	0.17	0.060	0.0069	1.4	0.18	0.056	<1.0	110	11	24	11
9866	mineral	2000	330	66		13	0.17	0.050	0.0069	1.4	0.17	0.057	<1.0	110	22	26	12

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, C-3

Location Code: 2001106

UTM: 17T 579750 4755400

Landform: clay plain

Slope: level

Date: 80/09/12

Vegetation: eastern white pine, white birch, white ash

Comments: faint mottling in subsurface mineral horizon, previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9875	surface	0-10	10YR 3/2	12	46	42	7.4	7.0	3.4	2.8	15			660	
9876	surface	0-10	10YR 3/2	12	46	42	7.5	7.0	4.4	3.1	22			700	
9873	surface	10-20	10YR 4/2	13	42	45	7.4	6.8	2.4	2.2	9.8			630	
9874	surface	10-20	10YR 4/2	13	44	43	7.4	7.0	2.7	2.3	17			630	
9871	mineral	20-40	10YR 4/3	9.0	36	55	7.2	6.8	0.85	0.94	9.3			710	
9872	mineral	20-40	10YR 4/3	9.0	37	54	7.4	6.8	0.81	1.1	11			750	

SOIL PROFILE INFORMATION (cont'd.)

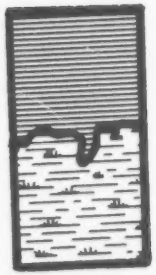
Site: Nanticoke Seedling Plot, C-3

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9875	surface	3400	460	190		21	0.090	0.050	0.020	1.5	0.18	0.098	<1.0	110	25	28	27
9876	surface	3600	480	220		22	0.080	0.050	0.022	1.4	0.19	0.094	<1.0	120	28	29	32
9873	surface	3600	420	75		22	0.090	0.050	0.014	1.4	0.17	0.087	<1.0	98	23	27	20
9874	surface	3600	430	92		22	0.090	0.060	0.018	1.5	0.19	0.10	<1.0	110	25	28	23
9871	mineral	4100	500	47		24	0.090	0.040	0.0041	1.5	0.19	0.051	<1.0	100	35	40	14
9872	mineral	3900	480	47		23	0.11	0.040	0.0046	1.6	0.21	0.059	<1.0	97	35	40	13

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Nanticoke Seedling Plot, C-2

Location Code: 2001107

UTM: 17T 576600 4747350

Landform: clay plain

Slope: level

Date: 80/09/26

Vegetation: eastern white pine, white birch, white ash

Comments: slightly stoney and mottles in subsurface horizon (10YR 5/8), previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9877	surface	0-10	10YR2.5/1	13	49	39	7.5	7.1	8.1	5.2	78			4900	
9878	surface	0-10	10YR2.5/1	11	49	40	7.6	7.3	8.8	6.5	74			6500	
9879	surface	10-20	10YR2.5/1	15	52	33	7.6	7.2	6.5	3.8	53			4500	
9880	surface	10-20	10YR2.5/1	16	50	34	7.5	7.1	7.4	4.4	48			5200	
9881	mineral	20-40	10YR 5/3	8.0	45	47	7.7	7.3	0.74	0.92	27			960	
9882	mineral	20-40	10YR 5/3	6.0	48	45	7.7	7.3	1.1	1.0	32			1300	

SOIL PROFILE INFORMATION (cont'd.)

Site: Nanticoke Seedling Plot, C-2

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9877	surface	4700	780	1000		32	0.19	0.050	0.024	0.89	0.13	0.097	14	340	54	370	22
9878	surface	3900	860	640		28	0.20	0.050	0.027	0.94	0.13	0.099	14	360	52	23	240
9879	surface	3900	850	700		28	0.21	0.050	0.027	0.93	0.13	0.11	14	200	45	21	190
9880	surface	4500	860	700		31	0.21	0.050	0.030	0.96	0.14	0.11	15	530	60	24	200
9881	mineral	1600	470	1300		15	0.24	0.060	0.0077	1.8	0.22	0.049	4.0	100	25	30	19
9882	mineral	1600	470	1000		15	0.28	0.060	0.015	1.3	0.15	0.045	2.0	110	21	28	28

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

surface

0

10

mineral

25

Site: Nanticoke Seedling Plot, A-4

Location Code: 2001108

UTM: 17T 553750 4738550

Landform: sand plain

Slope: level

Date: 80/09/26

Vegetation: eastern white pine, white birch, white ash

Comments: depth to watertable 25 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9883	surface	0-10	10YR2.5/0	68	20	12	7.1	6.6	4.5	2.3	9.5			700	
9884	surface	0-10	10YR2.5/0	72	20	7.0	6.9	6.3	4.6	2.3	10			630	
9885	mineral	10-25	10YR 5/4	65	22	13	7.6	7.1	0.63	0.45	9.5			1000	
9886	mineral	10-25	10YR 5/4	61	26	13	7.5	7.0	0.55	0.32	7.8			990	

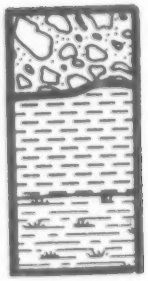
SOIL PROFILE INFORMATION (cont'd.)

Site: Nanticoke Seedling Plot, A-4

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9883	surface	2200	140	19		12	0.16	0.11	0.0084	1.3	0.18	0.024	<1.0	85	26	12	14
9884	surface	2400	160	98		13	0.18	0.12	0.0095	1.4	0.19	0.029	<1.0	83	21	11	18
9885	mineral	1700	760	26		10	0.050	0.030	0.0031	1.7	0.20	0.081	1.0	75	31	27	5.4
9886	mineral	1600	150	24		9.0	0.040	0.030	0.0030	1.5	0.17	0.055	1.0	71	30	24	4.6

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

0

surface

17

mineral

25

mineral

40

Site: Nanticoke Seedling Plot, C-1

Location Code: 2001110

UTM: 17T 577250 4743400

Landform: clay plain

Slope: level

Date: 80/09/26

Vegetation: eastern white pine, white birch, white ash

Comments: abundant stones in surface and mottles in subsurface mineral horizons (10YR 5/3)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9891	surface	0-17	10YR 4/2	17	31	52	6.2	5.9	2.1	1.7	15			530	
9892	surface	0-17	10YR 4/2	13	43	44	6.2	5.9	2.2	1.8	16			520	
9893	mineral	17-25	10YR 5/8	9.0	30	61	7.2	6.8	0.59	0.82	18			340	
9894	mineral	17-25	10YR 5/8	7.0	34	59	7.1	6.7	0.73	0.91	17			360	
9895	mineral	25-40	10YR 4/3	7.0	30	63	7.8	7.4	0.59	0.72	33			520	
9896	mineral	25-40	10YR 4/3	6.0	30	65	7.5	7.2	0.59	0.73	23			570	

SOIL PROFILE INFORMATION (cont'd.)

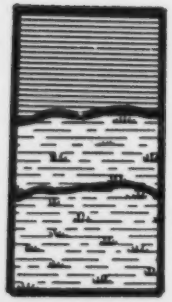
Site: Nanticoke Seedling Plot, C-1

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9891	surface	2700	460	110		18	0.14	0.060	0.0098	1.7	0.20	0.068	<1.0	120	21	30	21
9892	surface	2700	460	130		18	0.14	0.060	0.012	1.7	0.20	0.079	<1.0	110	22	27	19
9893	mineral	3300	790	81		23	0.13	0.040	0.0052	1.9	0.23	0.063	<1.0	130	41	46	14
9894	mineral	3100	820	98		22	0.14	0.050	0.0045	1.8	0.22	0.039	<1.0	110	36	36	12
9895	mineral	3800	870	75		26	0.080	0.030	0.0041	1.7	0.0040	0.045	1.0	110	41	46	12
9896	mineral	3600	370	81		25	0.090	0.040	0.0037	1.7	<0.0020	0.062	2.0	120	42	50	14

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Waterloo County, Hawkesville Series

Location Code: 2001112

UTM: 17T 535300 4802450

Landform: spillway

Slope: moderate slopes

Date: 80/10/01

Vegetation: ash, poplar, yellow birch, beech

Comments: depth to watertable 55 cm
distinct mottles (10YR 5/4) in subsurface mineral horizons, mottles (10YR 5/8) in surface, previously ploughed.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9915	surface	0-35	10YR2.5/1	70	22	8.0	7.6	7.1	4.4	2.47	21			1400	
9916	surface	0-35	10YR2.5/1	64	28	8.0	7.5	7.0	4.2	2.08	19			1100	
9913	mineral	35-46	10YR 5/4	73	17	10	8.1	7.5	0.39	0.30	3.4			790	
9914	mineral	35-46	10YR 5/4	81	10	8.0	7.8	7.4	0.27	0.19	3.8			650	
9911	mineral	46-50	10YR 5/4	78	21	1.0	8.0	7.6	0.19	0.17	4.4			370	
9912	mineral	46-50	10YR 5/4	81	9.0	10	8.0	7.4	0.27	0.29	4.4			780	
9909	mineral	50-56	10YR 5/4				8.4	7.8	0.070	<0.13	2.9			510	
9910	mineral	50-56	10YR 5/4	85	11	4.0	8.5	7.9	0.050	<0.090	3.1			500	
9907	mineral	56+	10YR 5/4	84	16	<1.0	8.4	7.9	0.24	0.17	3.7			480	
9908	mineral	56+	10YR 5/4				7.6	7.8	0.21	0.20	3.9			550	

SOIL PROFILE INFORMATION (cont'd.)

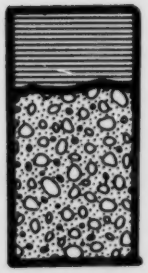
Site: Waterloo County, Hawkesville Series

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9915	surface	3000	510	58		19	0.31	0.22	0.053	1.5	0.22	0.21	<1.0	130	58	19	21
9916	surface	3100	520	58		20	0.24	0.13	0.078	1.1	0.15	0.12	<1.0	120	52	17	27
9913	mineral	970	140	30		6.1	0.070	0.040	0.0035	1.9	0.12	0.076	3.0	96	39	11	8.6
9914	mineral	620	120	36		4.2	0.090	0.020	0.0041	1.4	0.10	0.036	4.0	97	40	9.6	8.4
9911	mineral	700	120	26		4.5	0.040	<0.0020	0.0052	1.3	0.080	0.031	5.0	77	32	8.3	7.6
9912	mineral	730	140	29		4.8	0.050	<0.0020	0.0041	1.9	0.11	0.046	3.0	98	42	8.0	8.9
9909	mineral	590	90	26		3.7	0.020	<0.0020	0.0029	0.41	0.040	0.0090	9.0	35	51	2.9	7.8
9910	mineral	460	70	24		2.9	0.010	<0.0020	0.0032	0.86	0.060	0.014	20	60	56	4.4	12
9907	mineral	660	90	24		4.1	0.010	<0.0020	0.0034	0.41	0.040	0.015	21	29	33	2.4	4.4
9908	mineral	650	90	24		4.0	0.030	<0.0020	0.0055	0.43	0.050	0.014	20	46	43	3.3	6.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface 0

23

mineral 38

51

mineral 55

Site: Waterloo County, Elmira Series

Location Code: 2001113

UTM: 17T 549750 4815600

Landform: till plain

Slope: level

Date: 80/10/02

Vegetation: grass, pine

Comments: exceedingly stoney.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9923	surface	0-23	10YR 3/2	61	25	14	8.0	7.5	2.9	1.6	9.0			580	
9924	surface	0-23	10YR 3/2	59	27	14	8.0	7.6	1.9	1.6	6.6			570	
9921	mineral	23-38	7.5YR 4/4	81	12	6.0	8.3	7.8	0.44	0.37	2.7			380	
9922	mineral	23-38	7.5YR 4/4	80	14	6.0	8.2	7.7	0.47	0.35	2.6			340	
9919	mineral	38-51	10YR 4/4	92	5.0	3.0	8.6	7.8	0.25	0.39	2.5			430	
9920	mineral	38-51	10YR 4/4	86	10	4.0	8.23	7.8	0.29	0.36	3.4			320	
9917	mineral	51-55	10YR 6/4	91	6.0	3.0	8.6	7.9	0.33	0.28	1.8			390	
9918	mineral	51-55	10YR 6/4	92	5.0	2.0	8.5	7.9	0.21	0.17	1.6			410	

SOIL PROFILE INFORMATION (cont'd.)

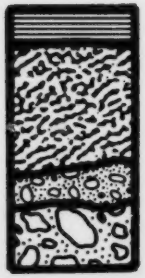
Site: Waterloo County, Elmira Series

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9923	surface	2100	250	35		12	0.090	0.050	0.023	1.2	0.16	0.10	16	170	37	16	38
9924	surface	2000	230	35		12	0.080	0.040	0.019	0.94	0.12	0.079	19	150	56	12	31
9921	mineral	830	97	18		5.0	0.040	0.020	0.0046	0.58	0.060	0.042	45	150	41	7.8	20
9922	mineral	990	120	18		6.0	0.040	0.020	0.0047	0.68	0.070	0.045	44	160	18	9.5	22
9919	mineral	550	72	9.5		3.3	0.020	0.010	0.0041	0.35	0.030	0.018	65	150	62	7.2	28
9920	mineral	740	100	15		4.5	0.030	0.020	0.0041	0.51	0.050	0.031	45	130	44	7.8	23
9917	mineral	470	55	9.5		2.8	0.020	0.010	0.0045	0.48	0.040	0.022	62	220	82	7.2	30
9918	mineral	410	52	9.5		2.5	0.010	0.010	0.0025	0.43	0.040	0.020	65	210	56	5.4	24

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

mineral

mineral

mineral

0

20

30

36

Site: Waterloo County, London Series

Location Code: 2001114

UTM: 17T 550000 4817150

Landform: kame moraine

Slope: moderate slope

Date: 80/10/02

Vegetation: pine, grasses

Comments: exceedingly stoney, close to gravel pit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9931	surface	0-20	10YR 3/3	47	38	15	8.0	7.5	2.6	1.3	8.5			390	
9932	surface	0-20	10YR 3/3	46	38	15	8.0	7.5	1.9	1.5	9.6			450	
9929	mineral	20-30	10YR 5/4	33	52	15	8.1	7.7	0.86	0.79	17			360	
9930	mineral	20-30	10YR 5/4	32	54	14	8.1	7.7	1.1	0.97	11			330	
9927	mineral	30-36	10YR 4/4	50	36	14	8.1	7.6	0.51	0.46	6.9			400	
9928	mineral	30-36	10YR 4/4	47	33	19	8.1	7.6		0.59	4.7			520	
9925	mineral	36+	10YR 6/4	50	36	15	8.0	7.5	0.57	0.52	6.5			450	
9926	mineral	36+	10YR 6/4	48	30	22	7.9	7.6	0.81	0.55	7.2			440	

SOIL PROFILE INFORMATION (cont'd.)

Site: Waterloo County, London Series

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9931	surface	2000	28	64		12	0.15	0.060	0.018	0.90	0.14	0.049		130	22	13	23
9932	surface	1900	280	81		12	0.14	0.060	0.021	0.89	0.14	0.050		120	35	13	30
9929	mineral	1500	220	18		9.3	0.27	0.11	0.012	1.0	0.20	0.049	2.0	130	33	14	22
9930	mineral	1500	210	24		9.3	0.26	0.10	0.014	1.0	0.19	0.042	3.0	120	38	14	25
9927	mineral	1400	260	21		9.1	0.17	0.090	0.0091	1.2	0.20	0.065	9.0	130	36	19	29
9928	mineral	1500	290	24		9.9	0.080	0.040	0.017	1.1	0.12	0.085	6.0	160	34	14	33
9925	mineral	1300	250	24		8.7	0.14	0.070	0.0088	0.95	0.17	0.060	18	120	19	16	23
9926	mineral	1700	380	29		12	0.16	0.070	0.0096	1.3	0.20	0.068	15	150	24	21	40

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

Site: Waterloo County, Perth Series

Location Code: 2001119

UTM: 17T 521000 4831700

Landform: till plain/clay plain

Slope: nearly level

Date: 80/10/29

Vegetation: hawthorn

Comments: gravel at 20 to 35 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9973	surface	0-13	10YR 3/2	7.0	62	31	7.4	6.9	6.3	5.4	24			1300	
9974	surface	0-13	10YR 3/2	8.0	69	23	7.5	7.0	7.4	6.0	22			1400	
9971	surface	13-20	10YR 3/2	9.0	71	20	7.3	6.9	4.2	3.1	15			1100	
9972	surface	13-20	10YR 3/2	8.0	72	21	7.3	6.8	5.2	4.5	17			1200	
9969	mineral	20-35	10YR 4/4	7.0	58	35	7.4	7.1	0.84	1.0	11			820	
9970	mineral	20-35	10YR 4/4	8.0	61	31	7.5	7.0	1.2	1.3	11			690	
9967	mineral	35-50	10YR 4/4	5.0	55	40	7.6	7.2	0.60	0.65	14			940	
9968	mineral	35-50	10YR 4/4	4.0	57	39	7.6	7.2	0.63	0.91	15			980	
9965	mineral	50+	10YR 4/4	4.0	69	27	8.0	7.5	0.65	0.73	12			950	
9966	mineral	50+	10YR 4/4	3.0	56	41	8.1	7.6	0.64	0.62	13			920	

SOIL PROFILE INFORMATION (cont'd.)

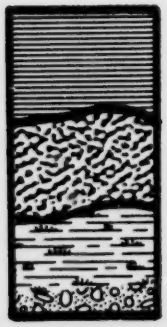
Site: Waterloo County, Perth Series

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9973	surface	4500	660	190		28	0.19	0.16	0.075	1.1	0.22	0.080	<1.0	140	44	21	24
9974	surface	4900	680	190		30	0.19	0.18	0.094	1.2	0.18	0.086	<1.0	140	43	21	29
9971	surface	3700	580	92		23	0.27	0.23	0.084	1.1	0.18	0.084	<1.0	130	27	23	20
9972	surface	4200	600	710		28	0.27	0.25	0.11	1.2	0.25	0.10	<1.0	140	43	23	20
9969	mineral	2400	420	57		16	0.14	0.080	0.013	1.3	0.17	0.052	<1.0	120	45	31	19
9970	mineral	2500	440	57		16	0.21	0.11	0.022	1.3	0.18	0.051	<1.0	120	38	27	15
9967	mineral	2400	420	52		15	0.11	0.050	0.0085	1.3	0.17	0.050	1.0	120	62	35	23
9968	mineral	2500	440	57		16	0.11	0.060	0.0075	1.2	0.17	0.054	1.0	130	49	37	19
9965	mineral	2600	430	40		17	0.080	0.040	0.0097	1.2	0.17	0.047	7.0	130	47	38	24
9966	mineral	2500	420	46		16	0.090	0.040	0.012	1.2	0.17	0.049	3.0	130	68	22	38

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Waterloo County, Maryhill Series

Location Code: 2001120

UTM: 17T 542900 4824350

Landform: till plain

Slope: nearly level

Date: 80/10/30

Vegetation: ironwood, oak

Comments: calcium carbonate at 48 cm. (10YR 7/2), mottles (10YR 5/9) at 35-48 cm., evidence of ploughing.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9981	surface	0-15	10YR2.5/1	40	14	45	7.3	7.0	7.5	5.6	25			1400	
9982	surface	0-15	10YR2.5/1	22	46	32	7.3	6.9	8.4	6.5	23			1500	
9979	mineral	15-35	10YR 5/8	29	43	28	7.4	7.0	1.8	1.6	20			1000	
9980	mineral	15-35	10YR 5/8	26	44	30	7.4	7.0	1.7	1.5	22			990	
9977	mineral	35-48	10YR 5/8	34	32	34	7.6	7.2	0.55	0.45	13			940	
9978	mineral	35-48	10YR 5/8	28	40	32	7.6	7.1	0.81	0.65	15			890	
9975	mineral	48+	10YR 5/8	11	51	38	7.8	7.2	0.32	0.41	15			870	
9976	mineral	48+	10YR 5/8	35	37	28	7.8	7.4	0.41	0.46	13			780	

SOIL PROFILE INFORMATION (cont'd.)

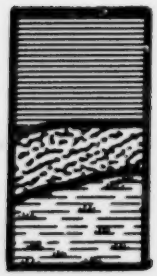
Site: Waterloo County, Maryhill Series

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9981	surface	4900	370	89		28	0.13	0.18	0.0032	0.58	0.18	0.0090	<1.0	130	34	19	28
9982	surface	4900	390	120		28	0.13	0.18	0.0039	0.57	0.18	0.011	<1.0	120	32	18	30
9979	mineral	2700		40			0.11	0.16	0.0020	0.92	0.17	0.010	<1.0	130	30	20	28
9980	mineral	2700	550	85		18	0.11	0.16	0.0022	0.76	0.17	0.009	<1.0	130	23	20	20
9977	mineral	1900	440	40		13	0.11	0.050	0.0028	1.7	0.14	0.027	1.0	110	31	20	22
9978	mineral	2300	470	43		15	0.12	0.090	0.0032	1.3	0.87	0.026	1.0	123	34	19	34
9975	mineral	1900	430	40		13	0.090	0.040	0.0020	1.6	0.16	0.065	2.0	130	40	29	16
9976	mineral	1800	400	38		12	0.090	0.040	0.0029	1.3	0.17	0.018	16	98	31	22	18

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Wellesley

Location Code: 2001133

UTM: 17T 519150 4812850

Landform: till plain/drumlins

Slope: simple, class 1, level

Date: 81/05/12

Vegetation: white birch

Comments: depth to watertable 55 cm., faint mottling (10YR 5/6) in mineral horizon at 40-55cm., near A.P.I.O.S. precipitation collector site.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18001	surface	0-15	10YR 3/2	54	24	22	6.8	6.4	3.0	3.0			<3.0		0.40
18000	surface	0-15	10YR 3/2	51	25	24	6.5	6.0	3.0	2.6			<3.0		0.34
17999	surface	15-30	10YR 3/2	54	23	23	6.8	6.3	2.0	1.7			<3.0		0.16
17998	surface	15-30	10YR 3/2	55	24	21	6.5	5.9	2.0	1.1			<3.0		0.30
17997	mineral	30-40	10YR 5/4	53	24	23	7.0	6.4	1.0	0.60			<3.0		<0.080
17996	mineral	30-40	10YR 5/4	50	23	27	6.3	5.6	1.0	0.50			<3.0		<0.080
17995	mineral	40-55	10YR 4/4	53	18	29	7.3	6.6	1.0	0.50			<3.0		<0.080
17994	mineral	40-55	10YR 4/4	53	19	28	7.4	6.7	1.0	0.60			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

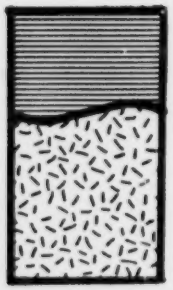
Site: Wellesley

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18001	surface	2400	390	100		15	0.23	0.13	0.0093	0.80	0.17	0.014	<1.0	51	9.3	8.4	12
18000	surface	1800	360	110		12	0.29	0.17	0.0092	0.86	0.19	0.015	<1.0	62	9.7	9.3	12
17999	surface	1600	290	74		11	0.31	0.17	0.0090	0.88	0.18	0.017	<1.0	55	9.2	10	7.9
17998	surface	1200	240	58		8.2	0.38	0.20	0.0079	1.0	0.23	0.016	<1.0	64	10	11	7.4
17997	mineral	1000	230	47		7.0	0.20	0.094	0.0098	0.95	0.15	0.030	<1.0	57	12	17	8.8
17996	mineral	1000	250	48		7.1	0.18	0.066	0.0081	0.92	0.13	0.027	<1.0	49	11	14	3.7
17995	mineral	1500	350	58		10	0.10	0.042	0.0059	0.96	0.15	0.038	2.0	55	16	18	5.2
17994	mineral	1400	250	52		9.1	0.12	0.055	0.0071	0.91	0.14	0.035	3.0	47	12	16	5.2

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Luther Marsh Conservation Area

Location Code: 2001191

UTM: 17T 548200 4866950

Landform: marsh/till plain

Slope: level

Date: 81/06/18

Vegetation: pine

Comments: organic mottles throughout profile, pine needles in litter layer

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18182	surface	0-20	10YR 3/2	21	48	31	7.5	6.9	3.0	3.0			<3.0		0.22
18181	surface	0-20	10YR 3/2	21	52	27	7.4	6.9	2.0	2.7			<3.0		0.090
18180	mineral	20-50	10YR 5/6	28	49	23	7.7	7.0	<0.50	0.50			<3.0		0.11
18179	mineral	20-50	10YR 5/6	18	55	27	7.7	7.0	<0.50	0.60			<3.0		0.17
18178	mineral	50-60	10YR 5/6	48	33	19	7.8	7.1	<0.50	0.40			<3.0		<0.080
18177	mineral	50-60	10YR 5/6	43	36	21	7.8	7.1	<0.50	0.50			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Luther Marsh Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18182	surface	2100	340	53		13	0.16	0.13	0.018	0.72	0.13	0.039	1.0	52	11	9.2	6.0
18181	surface	2000	480	41		14	0.16	0.13	0.017	0.85	0.15	0.040	1.0	51	11	10	6.0
18180	mineral	910	300	39		7.1	0.069	0.031	0.0020	0.80	0.10	0.020	1.0	25	8.8	6.1	<3.0
18179	mineral	1000	310	45		7.7	0.071	0.036	0.0020	0.42	0.058	0.012	1.0	32	9.6	7.8	3.9
18178	mineral	850	230	45		6.2	0.052	0.027	0.0012	0.42	0.044	0.023	2.0	35	12	10	<3.0
18177	mineral	690	230	45		5.4	0.051	0.024	0.0020	0.65	0.061	0.030	2.0	31	12	6.5	<3.0

SOIL PROFILE INFORMATION

Horizon

surface

mineral

mineral

mineral

Depth (cm)

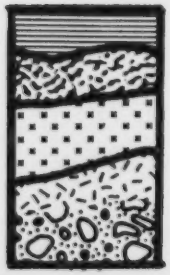
0

15

30

45

65



Site: Dufferin County, Guelph Series

Location Code: 2001208

UTM: 17T 568800 4859750

Landform: sand plain

Slope: extreme slopes

Date: 81/06/18

Vegetation: woodlot (managed), grasses

Comments: site is managed.
slightly stoney at 45cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18166	surface	0-15	10YR 3/3	81	6.0	13	7.9	7.3	1.0	0.80			<3.0		<0.080
18165	surface	0-15	10YR 3/3	77	9.0	13	7.9	7.3	1.0	0.90			4.0		0.11
18164	mineral	15-30	10YR 5/4	86	4.0	9.0	7.8	7.1	<0.50	0.30			<3.0		<0.080
18163	mineral	15-30	10YR 5/4	85	6.0	9.0	7.9	7.1	1.0	0.30			4.0		<0.080
18162	mineral	30-45	10YR 5/6	84	8.0	8.0	8.3	7.5	1.0	0.30			4.0		<0.080
18161	mineral	30-45	10YR 5/6	85	6.0	9.0	8.5	7.6	<0.50	0.30			<3.0		<0.080
18160	mineral	45-65	7.5YR 4/4	88	5.0	7.0	8.3	7.4	<0.50	0.20			4.0		<0.080
18159	mineral	45-65	7.5YR 4/4	87	5.0	8.0	8.4	7.5	<0.50	0.30			6.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Dufferin County, Guelph Series

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18166	surface	930	50	62		5.2							<1.0				
18165	surface	870	59	83		5.0							<1.0				
18164	mineral	420	31	52		2.5							<1.0				
18163	mineral	480	31	46		2.8							<1.0				
18162	mineral	750	42	17		4.1							3.0				
18161	mineral	750	45	15		4.1	0.044	0.034	0.0041	0.54	0.067	0.041	5.0				
18160	mineral	690	41	17		3.8	0.061	0.049	0.0043	0.51	0.079	0.037	1.0				
18159	mineral	640	41	15		3.6							1.0				

SOIL BASELINE ANALYTICAL DATA, 1980-1981

CENTRAL REGION

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0

25

mineral

55

mineral | 80

Site: Kelso Conservation Area

Location Code: 3001004

UTM: 17T 585400 4817300

Landform: till plain/limestone outcrop

Slope: moderate slope

Date: 80/05/06

Vegetation: oak

Comments: Stones at 80 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2^2)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9006	surface	0-25		66	22	12	7.0	6.3	3.5	2.1	12			640	
9007	mineral	25-55		61	26	13	7.0	6.2	0.56	0.58	8.0			670	
9008	mineral	70+		56	21	23	7.8	6.3	0.39	0.63	9.0			820	
9012	surface	0-25	2.5YR 3/2	70	16	14	7.1	6.5	3.0	2.0	11			690	
9011	mineral	25-55	7.5YR 4/4	67	24	9.0	6.9	5.9	0.31	0.43	11			680	
9010	mineral	55-80	7.5YR 4/4	67	25	7.0	7.0	6.0	0.16	0.33	7.9			780	
9009	mineral	80+	2.5YR 3/4	40	36	24	6.9	6.4	0.31	0.55	12			870	
9013	surface	0-15		65	25	10	6.7	5.0	3.1	1.9	11			560	
9014	mineral	25-55		71	19	10	6.9	6.1	0.61	0.52	6.4			530	
9015	mineral	80+		53	22	25	7.2	6.7	0.93	0.72	6.6			580	

SOIL PROFILE INFORMATION (cont'd.)

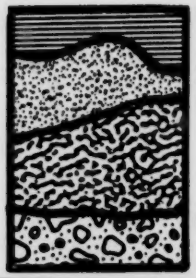
Site: Kelso Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9006	surface	2000	210	95		12	0.14	0.060	.044	0.94	0.13	0.10	<1.0	10	31	12	34
9007	mineral	960	120	47		5.9	0.10	0.050	.013	1.2	0.14	0.11	<1.0	63	30	18	13
9008	mineral	1800	90	34		10	0.060	0.030	.0053	1.7	0.17	0.13	<1.0	68	48	24	12
9012	surface	1800	200	180		11	0.17	0.090	.039				<1.0	82	16	12	18
9011	mineral	450	70	30		2.9	0.13	0.11	.0068	0.92	0.18	0.058	<1.0	50	13	12	4.8
9010	mineral	450	61	26		2.8	0.13	0.11	.0069	0.92	0.12	0.078	<1.0	39	19	13	7.0
9009	mineral	1600	180	34		11	0.060	0.040	.0035	1.7	0.18	0.19	<1.0	85	64	25	20
9013	surface	1800	27	120		9.5	0.080	0.030	.0050	1.0	0.19	0.080		82	19	14	23
9014	mineral	620	70	43		3.8	0.090	0.050	.011	0.81	0.11	0.062	<1.0	47	19	18	10
9015	mineral	1400	130	52		8.5	0.10	0.040	.013	1.3	0.14	0.11	<1.0	68	39	33	16

SOIL PROFILE INFORMATION

Horizon Depth (cm)

surface 0



20

mineral 40

mineral

60

mineral

Site: Watershed A - Dorset

Location Code: 3001006

UTM: 17T 662250 5009750

Landform: shallow till and rock ridges

Slope: moderate slope

Date: 80/05/20

Vegetation: sugar maple, birch, red oak

Comments: some stones at depth

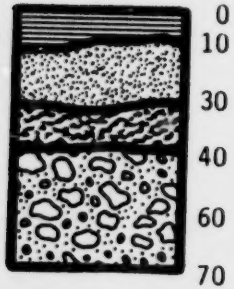
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9029	surface	0-15	5YR 2.5/2	50	42	8.0	5.0	4.2	5.4	3.4	23			280	
9028	mineral	20-40	5YR 4/3	63	35	2.0	5.5	4.6	3.2	1.8	7.0			740	
9027	mineral	40-60	7.5YR 4/4	78	15	7.0	5.6	4.7	1.2	0.69	5.6			710	
9026	mineral	60+	2.5YR 4/4	67	26	7.0	6.0	4.9	0.50	0.35	7.1			830	
9030	mineral	0-10	5YR 2.5/2	59	33	9.0	4.6	3.8	9.3	4.9	22			370	
9031	mineral	20-30	5YR 4/3	61	36	3.0	5.4	4.5	3.6	1.8	6.5			360	
9032	mineral	50+	2.5YR 4/4	78	22	<1.0	5.8	4.8	1.1	0.68	5.0			540	
9033	surface	0-20	5YR 2.5/2	48	44	9.0	4.5	3.6	8.0	4.5	27			330	
9034	mineral	20-40	5YR 4/3				4.8	4.0	4.1	2.2	12			280	

SOIL PROFILE INFORMATION (cont'd.)

Site: Watershed A - Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9029	surface	1000	140	100	26	6.8	0.43	0.13	0.0092	1.1	0.18	0.015		70	9.7	2.4	34
9028	mineral	120	18	22	39	0.95	0.35	0.12	0.0032	1.1	1.2	0.0020		62	8.6	4.9	<3.0
9027	mineral	56	7.0	12	15	0.52	0.11	0.31	0.00040	0.39	0.42	0.0010		33	7.4	6.1	<3.0
9026	mineral	66	7.0	17	6.0	<0.50	0.060	0.18	0.0010	0.38	0.27	0.0040		49	16	10	<3.0
9030	surface	1200	150	170	54	7.7	0.51	0.17	0.0086	1.0	0.20	0.013		75	9.0	5.6	40
9031	mineral						0.78	0.68	0.0022	1.4	0.87	0.0080		94	5.0	4.6	3.4
9032	mineral	110	9.0	7.0	12	0.77	0.15	0.23	0.0060	0.50	0.40	0.0040		48	7.6	7.7	<3.0
9033	surface	770	100	130	92	5.9	0.41	0.19	0.0050	0.80	0.20	0.0060		53	9.4	8.1	39
9034	mineral	400	50	68	140	4.2	1.1	0.32	0.0032	1.8	0.45	0.0080		49	6.0	10	8.7

SOIL PROFILE INFORMATION



Site: Watershed A - Dorset

Location Code: 3001006

UTM: 17T 662250 5009750

Landform: shallow till and rock ridges

Slope: simple, class 5, moderate slope

Date: 81/08/06

Vegetation: maple, oak, birch

Comments: faint, discontinuous bleached horizon at 10 cm, not sampled, moderately stoney throughout pit.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17540	surface	0-10	10YR 3/1				5.5	4.4							2.7
17539	surface	0-10	10YR 3/1				5.4	4.4							1.6
17538	mineral	10-30	7.5YR 4/4				5.3	4.4							6.3
17537	mineral	10-30	7.5YR 4/4				5.3	4.4							7.3
17536	mineral	30-40	10YR 5/4				5.2	4.5							4.4
17535	mineral	30-40	10YR 5/4				5.3	4.5							3.6
17534	mineral	40-60	10YR 6/4	82	16	2.0	5.2	4.5	1.0	0.50			<3.0		3.6
17533	mineral	40-60	10YR 6/4	82	16	2.0	5.2	4.3	1.0	0.50			<3.0		3.1
17532	mineral	60-70	10YR 6/4	82	16	2.0	5.1	4.5	1.0	0.60			<3.0		3.7
17531	mineral	60-70	10YR 6/4	84	14	2.0	5.2	4.4	1.0	0.40			<3.0		2.6

SOIL PROFILE INFORMATION (cont'd.)

Site: Watershed A - Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17540	surface	1400	140	120	18	8.6											
17539	surface	1800	190	110	9.0	11											
17538	mineral	200	15	19	82	2.0											
17537	mineral	150	11	11	77	1.6											
17536	mineral	32	2.0	11	48	0.68											
17535	mineral	32	2.0	11	37	0.57											
17534	mineral	27	2.0	16	35	0.55											
17533	mineral	27	2.0	11	35	0.53											
17532	mineral	27	2.0	14	48	0.66											
17531	mineral	48	2.0	14	34	0.63											

SOIL PROFILE INFORMATION

Horizon

surface

mineral

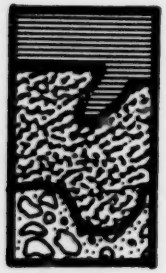
mineral

Depth (cm)

0

20

50



Site: Mark Burnham Provincial Park

Location Code: 3001007

UTM: 17T 717950 4908500

Landform: drumlin/till plain

Slope: nearly level

Date: 80/05/22

Vegetation: maple, oak

Comments: rocky throughout profile

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9037	surface	0-20	7.5YR 2.5/0	49	32	19	7.8	7.3	5.5	3.7	17			910	
9036	mineral	20-50	7.5YR 3/2	34	34	32	7.9	7.4	1.0	0.90	9.7			1400	
9035	mineral	50+	7.5YR 8/2	54	24	22	8.4	7.7	0.43	0.28	7.5			730	
9038	surface	0-20		37	42	20	7.0	6.4	6.1	3.1	19			940	
9039	mineral	20-50		37	43	20	7.4	6.8	1.4	1.1	11			890	
9041	mineral	50+		57	31	12	8.6	7.8	0.37	0.37	7.0			770	
9043	surface	0-20		45	31	24	7.3	7.0	5.2	3.6	30			960	
9042	mineral	20-50		34	30	35	7.6	7.2	0.94	0.83	9.6			1200	

SOIL PROFILE INFORMATION (cont'd.)

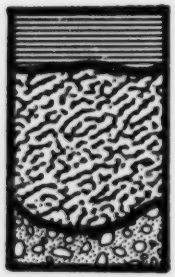
Site: Mark Burnham Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9037	surface	3300	74	51		17	0.43	0.18	0.023	1.2	0.21	0.054	1.0	77	15	7.7	15
9036	mineral	2400	47	34		13	0.64	0.040	0.0028	1.2	0.16	0.057	1.0	60	27	19	6.5
9035	mineral	1100	12	26		5.6	0.020	0.010	0.0020	0.59	0.060	0.023	43	20	13	7.3	<3.0
9038	surface	3100	74	69		16	0.40	0.18	0.033	1.2	0.23	0.061	<1.0	81	15	10	16
9039	mineral	1400	33	30		7.6	0.18	0.090	0.0089	0.98	0.15	0.040	<1.0	49	17	14	5.1
9041	mineral	1100	12	21		5.5	0.010	0.010	0.0013	0.41	0.040	0.016	47	20	17	5.6	<3.0
9043	surface	3700	60	43		19	0.33	0.13	0.022	1.2	0.20	0.062	<1.0	75	17	7.7	18
9042	mineral	2700	51	39		14	0.10	0.040	0.0061	1.0	0.15	0.057	42	59	23	19	6.8

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface 0

mineral 20

mineral 45

70

mineral 75

Site: Warsaw Caves Conservation Area

Location Code: 3001008

UTM: 17T 249550 4926700

Landform: moraine/spillway

Slope: nearly level

Date: 80/05/27

Vegetation: spruce, grass, moss

Comments: area of karst topography, limestone caves, kettles, stones in pit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9045	surface	0-20	5YR 2.5/1	71	14	15	7.2	6.6	7.3	0.34	7.7			570	
9046	mineral	20-45	5YR 4/4	73	16	11	6.8	5.9	0.82	0.33	7.6			370	
9044	mineral	45-70	5YR 4/4	77	14	9.0	6.6	5.8	0.70	4.0	17			510	
9040	mineral	70+	7.5YR 5/2	71	13	16	8.6	7.7	0.25	0.39	6.9			510	
9049	surface	0-20	5YR 2.5/1	67	11	21	7.4	6.8	8.2	3.6	17			360	
9048	mineral	20-75	5YR 4/4	70	10	20	7.3	6.8	1.0	0.60	10			480	
9047	mineral	75+	7.5YR 5/2	70	15	15	8.7	7.8	0.11	0.11	8.0			710	
9052	surface	0-20	5YR 2.5/1	66	13	21	7.6	7.2	5.1	3.3	19			560	
9051	mineral	20-75	5YR 4/4	67	9.0	25	7.8	6.7	0.59	0.42	12			460	
9050	mineral	75+	7.5YR 5/2	76	15	9.0	8.5	7.8	0.31	0.22	8.0			830	

SOIL PROFILE INFORMATION (cont'd.)

Site: Warsaw Caves Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9045	surface	1700	23	25		8.6	0.17	0.090	0.070	0.78	0.15	0.099	<1.0	110	20	6.0	17
9046	mineral	890	12	8.4		4.6	0.13	0.090	0.0061	0.84	0.14	0.014	<1.0	40	12	5.7	4.5
9044	mineral	2200	100	52		12	0.15	0.060	0.0095	1.0	0.17	0.056	<1.0	40	13	12	7.7
9040	mineral	780	2.0	8.4		3.9	0.19	0.090	0.0090	0.29	0.090	0.016	48	13	15	4.2	<3.0
9049	surface	3100	110	30		16	0.080	0.060	0.035	0.60	0.12	0.040	<1.0	87	19	5.4	35
9048	mineral	1300	25	26		6.6	0.15	0.11	0.015	1.1	0.23	0.072	<1.0	37	17	9.6	8.6
9047	mineral	650	2.0	8.4		3.3	0.10	0.010	0.0021	0.22	0.030	0.0090	18	12	12	3.2	<3.0
9052	surface	3300	79	100		17	0.11	0.030	0.10	0.57	0.11	0.098	<1.0	70	23	6.6	19
9051	mineral	1200	23	39		6.3	0.10	0.060	0.018	0.75	0.11	0.048	<1.0	32	16	11	7.6
9050	mineral	940	5.0	8.4		4.8	0.020	0.020	0.0029	0.22	0.041	0.010	18	12	12	5.4	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0
20

mineral 500

mineral 1000

Site: Warsaw-Esker (Peterborough)

Location Code: 3001009

UTM: 17T 248700 4925250

Landform: esker

Slope: strong slope

Date: 80/05/22

Vegetation: grass

Comments: unstratified rocks, esker used for gravel

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9053	surface	0-20	10YR 3/3	58	17	26	8.0	7.5	2.1	1.8	11		1100		
9054	mineral	130	10YR 4/3	69	8.0	22	8.2	7.8	0.68	0.53	6.4		820		
9055	mineral	400	10YR 5/3	75	11	14	8.4	7.8	0.81	0.57	7.5		770		
9056	mineral	600	10YR 4/3	72	14	14	8.1	7.7	1.2	0.94	9.1		1100		
9057	mineral	1000	10YR 4/3	69	11	20	8.4	7.8	0.93	0.68	7.6		750		

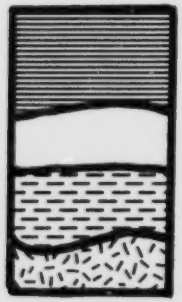
SOIL PROFILE INFORMATION (cont'd.)

Site: Warsaw-Esker-(Peterborough)

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9053	surface	2300	49	43		12	0.080	0.070	0.028	1.2	0.16	0.12	4.0	68	20	18	12
9054	mineral	1400	18	17		7.5	0.030	0.040	0.0052	0.76	0.080	0.044	20	44	27	14	7.6
9055	mineral	1400	14	30		7.5	0.020	0.030	0.0047	0.79	0.10	0.062	22	61	29	13	7.1
9056	mineral	1500	28	43		8.0	0.030	0.040	0.0076	0.73	0.090	0.066	18	65	28	14	10
9057	mineral	1500	28	37		7.8	0.030	0.040	0.0080	0.68	0.080	0.067	20	61	32	14	5.1

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Bronte Creek Provincial Park

Location Code: 3001020

UTM: 17T 600200 4806400

Landform: shale plain/beach

Slope: nearly level

Date: 80/06/11

Vegetation: oak, hawthorn

Comments: faint bleached horizon, slightly mottled, glacial Lake Iroquois shoreline.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9154	surface	0-20	5YR 3/2	16	53	32	6.2	5.6	4.2	3.4	15			780	
9155	surface	0-20	5YR 3/2	15	52	33	6.4	5.7	1.3	3.1	15			730	
9152	mineral	20-30	7.5YR 4/4	18	57	25	5.7	4.8	0.45	0.54	8.7			250	
9153	mineral	20-30	7.5YR 4/4	16	59	25	5.7	4.7	0.33	0.45	9.8			210	
9150	mineral	30-45	5YR 4/4	9.0	45	46	5.4	4.6	0.35	0.72	20			360	
9151	mineral	30-45	5YR 4/4	8.0	43	50	5.4	4.7	0.29	0.48	23			290	
9148	mineral	45-55	2.5YR 3/4	8.0	53	39	6.6	5.9	0.35	0.49	14			810	
9149	mineral	45-55	2.5YR 3/4	6.0	44	51	6.1	5.3	0.35	0.64	23			600	

SOIL PROFILE INFORMATION (cont'd.)

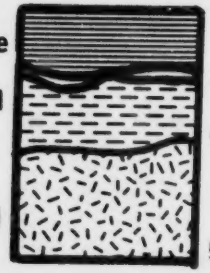
Site: Bronte Creek Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9154	surface	3600	280	290		21	0.23	0.10	0.0360	1.4	0.23	0.13	<1.0	130	31	20	42
9155	surface	3900	330	350		23	0.21	0.10	0.0360	1.5	0.26	0.16	<1.0	120	24	19	68
9152	mineral	900	73	54	27	5.5	0.17	0.060	0.0015	1.6	0.16	0.024		65	29	20	11
9153	mineral	900	63	44	41	5.5	0.17	0.060	0.0016	1.5	0.16	0.021		66	35	19	10
9150	mineral	1900	130	53	170	13	0.060	0.030	0.0011	1.8	0.17	0.048		78	39	29	11
9151	mineral	2200	140	53	190	14	0.12	0.060	0.0011	1.9	0.17	0.034		79	36	29	11
9148	mineral	3000	160	37		16	0.040	0.020	0.0020	1.7	0.16	0.13	<1.0	81	29	38	14
9149	mineral	3600	180	42	<4.5	19	0.070	0.030	0.0038	1.8	0.14	0.12	<1.0	80	31	35	12

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Bronte Creek Provincial Park

Location Code: 3001020

UTM: 17T 600200 4806400

Landform: till plain

Slope: level

Date: 81/05/20

Vegetation: oak, hawthorn

Comments: bleached horizon at 18-20 cm not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17181	surface	0-20	10YR 3/2	16	43	41	6.2	5.3	4.0	3.0			5.0		0.22
17180	surface	0-20	10YR 3/2	19	38	43	6.1	5.4	4.0	3.4			4.0		0.38
17179	mineral	20-40	10YR 4/4	36	26	38	5.4	4.6	1.0	0.60			<3.0		0.58
17178	mineral	20-40	10YR 4/4	20	53	27	5.6	4.5	1.0	0.50			<3.0		0.24
17177	mineral	40-55	2.5YR 5/4	14	44	42	5.7	5.0	1.0	0.60			<3.0		<0.080
17176	mineral	40-55	2.5YR 5/4	13	30	57	5.7	4.9	1.0	0.70			<3.0		0.12

SOIL PROFILE INFORMATION (cont'd.)

Site: Bronte Creek Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17181	surface	1800	280	260	<2.3	12							<1.0				
17180	surface	1700	270	250	<2.3	11							<1.0				
17179	mineral	770	66	49	30	4.8											
17178	mineral	1200	88	40	28	7.0											
17177	mineral	1800	160	53	6.0	11							<1.0				
17176	mineral	2100	150	46	15	12											

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

Site: Goodrich-Loomis Conservation Area

Date: 80/06/16

Location Code: 3001025

UTM: 18T 274500 4889400

Vegetation: till/lacustrine deposit

Landform: drumlin/beach deposit

Slope: moderate slope

Comments: clay accumulation could be lacustrine deposit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9191	surface	0-12	10YR 3/3	68	20	11	8.2	7.7	0.45	0.21	3.1			500	
9192	surface	0-12	10YR 3/3	75	17	9.0	8.1	7.6	0.58	<0.12	4.1			20	
9190	mineral	12-15	10YR 6/3	76	17	7.0	8.2	7.5	0.12	0.40	2.1			910	
9188	mineral	15-35	7.5YR 4/4	60	15	24	8.3	7.7	0.21	0.31	2.6			1100	
9189	mineral	15-35	7.5YR 4/4	65	12	23	8.1	7.7	0.25	0.24	2.9			560	
9186	mineral	35-40	5Y 5/4	76	16	9.0	8.7	7.8	0.12	0.20	1.4			680	
9187	mineral	35-40	5Y 5/4	68	18	14	8.8	7.8	0.12	<0.15	1.1			520	
9184	mineral	40-60	5Y 6/4	82	16	3.0	8.7	7.9	0.080	1.9	1.4			570	
9185	mineral	40-60	5Y 6/4	79	20	1.0	8.7	7.8	0.11	0.28	1.3			630	

SOIL PROFILE INFORMATION (cont'd.)

Site: Goodrich-Loomis Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9191	surface	1000	8.5	21		5.2	0.020	0.020	0.0021	0.45	0.060	0.016	2.0	22	10	4.4	<3.0
9192	surface	960	8.5	21		4.9	0.020	0.020	0.0025	0.41	0.060	0.015	4.0	22	11	3.9	3.1
9190	mineral	550	4.2	13		2.8	0.030	0.020	0.0016	0.34	0.040	0.012		13	12	3.4	<3.0
9188	mineral	1500	8.5	17		7.5	0.020	0.020	0.0020	0.77	0.090	0.022	4.0	23	12	8.9	<3.0
9189	mineral	1500	8.5	17		7.6	0.030	0.020	0.0021	1.0	0.13	0.022	2.0	31	23	11	<3.0
9186	mineral	490	4.2	8.3		2.5	0.010	0.010	0.00090	0.20	0.020	0.0090	35	8.9	13	3.4	4.4
9187	mineral	490	4.2	8.3		2.5	0.010	0.010	0.0013	0.21	0.020	0.010	33	7.5	9.5	2.4	<3.0
9184	mineral	460	4.2	8.3		2.3	0.010	<0.0020	0.00040	0.19	0.020	0.0080	38	9.0	20	2.3	<3.0
9185	mineral	470	4.2	8.3		2.4	0.010	0.010	0.00060	0.19	0.020	0.0090	32	7.9	14	2.5	4.2

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

Site: Ferris Provincial Park

Location Code: 3001026

UTM: 18T 277300 4908500

Landform: drumlin

Slope: nearly level

Date: 80/06/16

Vegetation: maple, oak, grass

Comments: many stones

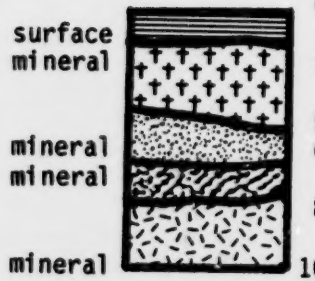
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9201	surface	0-5	5YR 2.5/1	25	43	32	7.2	6.6	4.9	3.6	15			1100	
9202	surface	0-5	5YR 2.5/1	29	42	29	6.2	5.8	5.3	3.6	19			1100	
9199	surface	5-15	5YR 2.5/2	34	44	22	7.6	7.1	3.1	2.6	8.3			920	
9200	surface	5-15	5YR 2.5/2	32	43	25	7.4	6.7	2.4	2.2	8.4			1100	
9197	mineral	15-40	5YR 3/4	26	41	33	7.8	7.2	1.1	0.91	6.1			1000	
9198	mineral	15-40	5YR 3/4				7.6	7.0	0.88	0.74	5.2			890	
9195	mineral	40-55	5YR 3/4	19	43	38	7.9	7.4	0.66	0.58	6.3			860	
9196	mineral	40-55	5YR 3/4	23	45	32	7.9	7.2	0.84	0.87	6.2			1100	
9193	mineral	55+	7.5YR 6/2	56	26	18	8.4	7.8	0.19	0.48	3.4			580	
9194	mineral	55+	7.5YR 6/2	52	29	19	8.4	7.8	0.23	0.20	3.1			550	

SOIL PROFILE INFORMATION (cont'd.)

Site: Ferris Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9201	surface	4200	130	190		23	0.12	0.070	0.092	1.0	0.14	0.098		87	28	14	14
9202	surface	3400	140	190		19	0.14	0.090	0.099	1.0	0.16	0.086	<1.0	85	28	14	15
9199	surface	3500	78	76		18	0.10	0.060	0.044	0.95	0.12	0.089	4.0	83	34	14	8.9
9200	surface	3200	65	68		17	0.11	0.060	0.030	0.90	0.11	0.073		72	24	13	6.8
9197	mineral	320	79	69		2.4	0.080	0.060	0.0091	1.4	0.16	0.080	2.0	86	31	23	5.6
9198	mineral	230	61	51		1.8	0.080	0.050	0.0084	1.1	0.14	0.084	2.0	74	31	16	5.4
9195	mineral	340	70	64		2.4	0.050	0.030	0.0045	1.3	0.14	0.056	2.0	73	30	20	4.1
9196	mineral	320	70	69		2.3	0.070	0.040	0.0042	1.3	0.15	0.067	2.0	76	32	19	4.8
9193	mineral	1100	17	42		5.8	0.010	0.010	0.0010	0.49	0.040	0.017	40	23	22	7.3	<3.0
9194	mineral	1100	17	42		5.8	0.010	0.010	0.0013	0.49	0.040	0.018	42	23	28	7.2	<3.0

SOIL PROFILE INFORMATION



Site: Bass Lake Provincial Park

Location Code: 3001032

UTM: 17T 620450 4939550

Landform: sand plain/beach

Slope: moderate slopes

Date: 80/06/23

Vegetation: maple, pine, grassland

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9254	surface	0-13	10YR 3/2	54	27	19	6.4	5.8	3.4	7.1	17			580	
9255	surface	0-13	10YR 3/2	58	25	17	6.5	5.7	3.3	7.5	20			640	
9252	mineral	13-20	10YR 4/3	62	27	11	6.5	5.5	1.4	0.98	13			540	
9253	mineral	13-20	10YR 4/3	63	26	11	6.1	5.2	1.8	1.3	14			680	
9250	mineral	20-50	10YR 4/3	63	28	9.0	6.6	5.5	1.1	0.74	17			590	
9251	mineral	20-50	10YR 4/3	63	28	9.0	6.5	5.4	1.3	0.73	14			580	
9248	mineral	50-60	7.5YR 5/6	60	28	12	6.6	5.6	0.82	0.54	15			490	
9249	mineral	50-60	7.5YR 5/6	69	28	3.0	6.6	5.5	0.94	0.74	15			910	
9246	mineral	60-80	7.5YR 5/6	69	24	7.0	6.5	5.7	0.80	0.54	14			590	
9247	mineral	60-80	7.5YR 5/6	65	26	8.0	6.5	5.5	0.98	0.48	13			740	
9244	mineral	80-100	10YR 4/3	70	21	9.0	6.4	5.0	0.35	<0.13	10			460	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

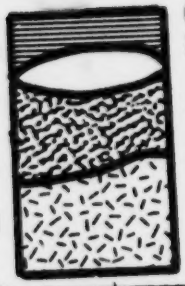
SOIL PROFILE INFORMATION (cont'd.)

Site: Bass Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9254	surface	1400	150	120		8.5	0.17	0.10	0.049	0.92	0.22	0.065	<1.0	57	27	7.1	9.9
9255	surface	1300	120	110		7.4	0.19	0.15	0.054	0.85	0.21	0.058	<1.0	56	22	7.5	12
9252	mineral						0.15	0.14	0.016	0.81	0.24	0.067	<1.0	56	25	7.8	3.7
9253	mineral	710	66	37	<2.3	4.2	0.13	0.12	0.020	0.98	0.20	0.055	<1.0	52	29	6.4	4.3
9250	mineral	670	36	12	<2.3	3.7	0.25	0.18	0.010	1.0	0.18	0.075	<1.0	55	20	7.1	<3.0
9251	mineral	740	61	22	<2.3	4.3	0.19	0.15	0.0089	1.2	0.15	0.060	<1.0	53	8.5	7.4	<3.0
9248	mineral	660	24	21		3.5	0.27	0.23	0.0063	1.1	0.23	0.058	<1.0	58	34	9.9	<3.0
9249	mineral	660	15	17		3.4	0.27	0.27	0.0056	1.2	0.30	0.049		60	18	11	<3.0
9246	mineral	490	13	17		2.6	0.21	0.26	0.0058	0.98	0.30	0.066		47	41	8.7	<3.0
9247	mineral	400	8.0	17		2.1	0.12	0.21	0.0057	1.0	0.21	0.041		52	41	12	3.1
9244	mineral	200	12	7.0	<2.3	1.1	0.040	0.060	0.0025	0.43	0.060	0.033	<1.0	16	17	5.5	<3.0
9245	mineral	230	42	10		1.2	0.040	0.050	0.0025	0.75	0.11	0.083	<1.0	26	17	8.7	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Moonstone

Location Code: 3001033

UTM: 17T 603650 4943750

Landform: sand plain

Slope: nearly level

Date: 80/06/23

Vegetation: maple, birch, oak

Comments: irregular bleached horizon, near A.P.I.O.S. precipitation collector

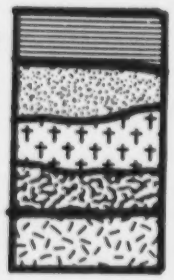
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9263	surface	0-10	5YR 3/1	60	22	18	7.7	7.1	3.4	0.94	8.3			600	
9264	surface	0-10	5YR 3/1	61	24	15	7.6	7.1	3.5	1.4	8.4			820	
9261	surface	10-20	5YR 3/1	61	21	18	7.5	7.1	2.2	1.1	7.8			840	
9262	surface	10-20	5YR 3/1	58	22	19	7.5	6.7	3.0	1.2	6.8			700	
9260	surface mineral	20-25	10YR 5/3	64	22	14	7.2	6.6	1.4	0.55	6.4			660	
9258	mineral	25-40	10YR 4/4	61	26	13	7.1	6.4	0.78	0.51	6.6			900	
9259	mineral	25-40	10YR 4/4	64	26	10	7.1	6.4	0.74	0.51	8.7			730	
9256	mineral	40-60	10YR 4/4	79	9.0	12	7.1	6.3	0.39	0.21	5.5			450	
9257	mineral	40-60	10YR 4/3	83	9.0	8.0	7.1	6.4	0.23	<0.13	5.4			430	

SOIL PROFILE INFORMATION (cont'd.)

Site: Moonstone

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9263	surface	2300	180	120		13	0.16	0.080	0.049	0.75	0.15	0.096	1.0	67	21	9.3	22
9264	surface	2100	160	110		12	0.19	0.10	0.065	0.73	0.15	0.097	1.0	68	39	9.5	20
9261	surface	1700	150	63		10	0.30	0.14	0.048	0.78	0.17	0.12	1.0	62	15	8.5	9.9
9262	surface	2000	160	71		11	0.20	0.12	0.067	0.85	0.19	0.18	<1.0	68	20	9.5	10
9260	surface mineral	930	68	47		5.3	0.19	0.13	0.017	0.77	0.19	0.071	<1.0	45	23	9.4	<3.0
9258	mineral	820	52	17		4.5	0.17	0.14	0.0054	0.85	0.27	0.031	<1.0	50	32	9.3	<3.0
9259	mineral	810	51	28		4.5	0.31	0.21	0.0076	0.97	0.26	0.037	<1.0	53	20	10	4.0
9256	mineral	770	52	42		4.4	0.060	0.060	0.0030	0.66	0.090	0.029	<1.0	36	27	10	<3.0
9257	mineral	420	17	34		2.3	0.040	0.050	0.0017	0.48	0.12	0.0038	<1.0	18	20	6.4	<3.0

SOIL PROFILE INFORMATION



Site: Springwater Provincial Park

Location Code: 3001034

UTM: 17T 598450 4921500

Landform: sand plain

Slope: level

Date: 80/06/23

Vegetation: pine

Comments: iron stains (2.5YR 3/6) at the 70-80 cm depth

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9273	surface	0-20	7.5YR 4/2	96	3.0	1.0	6.1	5.0	2.0	0.66	6.4			410	
9274	surface	0-20	7.5YR 4/2	93	2.0	5.0	5.7	4.9	2.1	0.71	6.6			420	
9271	mineral	20-30	5YR 4/6	93	1.0	6.0	6.5	5.8	1.5	0.45	4.0			970	
9272	mineral	20-30	5YR 4/6	98	1.0	1.0	6.6	5.2	1.3	0.52	3.7			990	
9269	mineral	30-50	10YR 5/6	100	<1.0	<1.0	6.2	5.4	2.0	<0.13	6.1			790	
9270	mineral	30-50	10YR 5/6	100	<1.0	<1.0	6.2	5.2	0.82	<0.12	4.9			560	
9267	mineral	50-70	10YR 5/4	100	1.0	<1.0	6.2	5.2	0.44	<0.12	6.0			740	
9268	mineral	50-70	10YR 5/4	100	<1.0	<1.0	6.2	5.3	0.60	<0.11	5.4			800	
9265	mineral	70-80	2.5Y 4/4	98	<1.0	1.0	6.2	5.4	0.35	<0.09	4.4			500	
9266	mineral	70-80	2.5Y 4/4	97	2.0	1.0	6.3	5.3	0.43	<0.12	4.8			710	

SOIL PROFILE INFORMATION (cont'd.)

Site: Springwater Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9273	surface	370	29	25	9.3	3.2	0.14	0.19	0.0015	0.55	0.27	0.0030	<1.0	24	22	97	4.6
9274	surface	430	140	25	14	3.2	0.18	0.24	0.0018	0.45	0.26	0.0040		26	36		5.8
9271	mineral	510	21	17	3.0	3.0	0.19	0.22	0.00040	0.56	0.28	0.0010	<1.0	20	26	110	<3.0
9272	mineral	500	26	21	2.3	2.8	0.13	0.19	0.00040	0.55	0.30	0.0020	<1.0	21	26	96	<3.0
9269	mineral	99	10	17	4.0	0.66	0.070	0.10	0.00090	0.42	0.15	0.0030	<1.0	15	24	94	<3.0
9270	mineral	150	10	17	4.8	0.92	0.090	0.13	0.00040	0.38	0.18	0.0010		16	26	80	<3.0
9267	mineral	88	5.0	4.0	2.6	0.55	0.11	0.13	0.0030	0.36	0.18	0.0090	<1.0	14	26	5.1	<3.0
9268	mineral	110	7.0	17	2.6	0.69	0.070	0.080	0.00040	0.33	0.13	0.0020	<1.0	14	15		<3.0
9265	mineral	88	5.0	2.4	<2.3	0.51	0.21	0.090	0.0013	0.84	0.16	0.0040	<1.0	13	29	5.3	<3.0
9266	mineral	88	5.0	4.0	<2.3	0.51	0.15	0.090	0.00060	0.72	0.16	0.0020	<1.0	15	46	5.4	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

0
30
55
75
100

Site: Cookstown

Location Code: 3001036

UTM: 17T 596150 4908500

Landform: drumlin

Slope: moderate slopes

Date: 80/06/23

Vegetation: grass

Comments: air-dry colours given, very stoney at depth

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9281	surface	0-30	10YR 4/2	29	46	25	7.9	7.5	2.5	1.6	12			800	
9282	surface	0-30	10YR 4/2	28	44	27	8.0	7.5	2.4	2.0	13			890	
9279	mineral	30-55	10YR 6/3	23	62	14	7.9	7.2	0.40	0.47	7.1			850	
9280	mineral	30-55	10YR 6/3	25	63	12	7.9	7.2	0.45	0.35	8.5			760	
9277	mineral	55-75	10YR 5/4	49	26	25	8.0	7.4	0.44	0.27	3.7			740	
9278	mineral	55-75	10YR 5/4	53	22	25	7.9	7.4	0.44	0.26	0.50			720	
9275	mineral	75-100	2.5Y 6/2	69	17	14	8.5	7.8	0.15	<0.15	2.1			490	
9276	mineral	75-100	2.5Y 6/2	72	14	13	8.6	7.9	0.15	0.17	3.3			440	

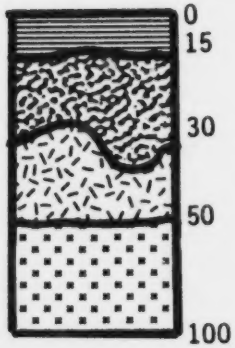
SOIL PROFILE INFORMATION (cont'd.)

Site: Cookstown

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9281	surface	2400	59	47		13	0.090	0.060	0.0073	0.80	0.15	0.062	1.0	52	20	8.8	8.1
9282	surface	2400	59	47		13	0.12	0.080	0.015	0.83	0.16	0.059	2.0	53	18	8.0	7.5
9279	mineral	1000	11	39		5.2	0.13	0.11	0.0027	0.65	0.17	0.021	2.0	28	14	9.2	3.7
9280	mineral	980	11	39		5.0	0.13	0.11	0.0020	0.63	0.17	0.020	1.0	28	17	8.6	3.6
9277	mineral	1500	43	32		7.9	0.070	0.020	0.0021	0.90	0.11	0.035	2.0	32	29	12	<3.0
9278	mineral	1600	51	36		8.6	0.070	0.020	0.0021	0.93	0.12	0.033	2.0	32	28	13	3.5
9275	mineral	680	25	28		3.6	0.010	0.010	0.00060	0.22	0.030	0.011	22	15	14	7.0	<3.0
9276	mineral	1500	43	32		7.9	0.010		0.0015	0.23	0.030	0.011	24	16	19	6.9	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Earl Rowe Provincial Park

Location Code: 2001037

UTM: 17T 587450 4890150

Landform: sand plain

Slope: simple, class 1, level

Date: 80/06/23

Vegetation: maple

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9292	surface	0-15	5YR 2.5/1	74	7.0	19	6.6	6.0	4.6	3.3	14			410	
9293	surface	0-15	5YR 2.5/1	69	5.0	26	6.5	5.8	4.2	2.0	14			300	
9289	mineral	15-30	10YR 5/8	92	3.0	5.0	6.5	5.4	0.47	0.28	2.4			340	
9290	mineral	15-30	10YR 5/8	93	3.0	4.0	6.4	5.4	0.44	0.26	2.7			310	
9287	mineral	30-50	10YR 5/6	90	2.0	8.0	6.8	5.8	0.23	<0.12	1.2			510	
9288	mineral	30-50	10YR 5/6	91	2.0	8.0	6.7	5.7	0.27	<0.12	1.4			250	
9285	mineral	50-75	10YR 4/4	86	3.0	11	7.9	7.4	0.15	<0.090	0.50			290	
9283	mineral	75-100	10YR 6/4	87	1.0	12	8.6	7.7	0.15	< 0.13	1.1			390	
9284	mineral	75-100	10YR 6/4	87	2.0	11	8.7	7.6	0.11	< 0.090	1.0			300	

SOIL PROFILE INFORMATION (cont'd.)

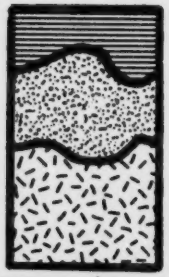
Site: Earl Rowe Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9292	surface	2200	160	88		13	0.10	0.060		0.31	0.060	0.081	<1.0	73	17	5.8	17
9293	surface	1700	120	63		9.6	0.11	0.070		0.32	0.070	0.077	<1.0	70	20	5.1	17
9289	mineral	340	26	12	2.7	2.1	0.11	0.11	0.0041	0.39	0.12	0.012	<1.0	31	29	8.4	<3.0
9290	mineral	300	29	12	2.7	2.5	0.10	0.10	0.0025	0.32	0.12	0.0060	<1.0	26	27	92	<3.0
9287	mineral	200	17	20		1.2	0.060	0.050	0.0044	0.27	0.070	0.012	<1.0	15	16	130	<3.0
9288	mineral	200	17	24		1.2	0.070	0.060	0.0059	0.25	0.068	0.011	<1.0	17	22	130	3.1
9285	mineral	450	13	28		2.4	0.020	0.010	0.0031	0.20	0.040	0.011	7.0	13	24	100	<3.0
9283	mineral	260	4.0	24		1.4	0.010	0.010	0.0018	0.18	0.030	0.0090	17	11	20	120	<3.0
9284	mineral	260	4.0	24		1.4	0.010	<0.0020	0.0018	0.15	0.020	0.0090	19	12	23	97	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

surface 0



20

mineral 40

60

mineral 80

Site: Bruce's Mill Conservation Area

Location Code: 3001038

UTM: 17T 632700 4866650

Landform: bevelled till plain

Slope: level

Date: 80/06/25

Vegetation: maple, birch

Comments: faint mottles at 70 cm. (7.5YR 4/4)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9300	surface	0-20	5YR 2.5/1	24	28	48	7.0	6.5	5.3	2.9	16			510	
9301	surface	0-20	5YR 2.5/1	41	36	23	7.0	6.5	4.4	2.9	14			410	
9298	mineral	20-40	7.5YR 5/6	43	44	13	7.7	5.9	2.2	1.6	11			500	
9299	mineral	20-40	7.5YR 5/6	43	47	10	6.2	5.4	1.9	0.93	14			310	
9296	mineral	40-60	10YR 5/4	50	27	23	7.2	6.6	0.85	0.39	4.4			420	
9297	mineral	40-60	10YR 5/4	44	39	17	7.4	6.6	1.1	0.66	7.3			420	
9294	mineral	60-80	10YR 6/4	62	14	23	7.6	7.0	0.32	0.26	5.0			580	
9295	mineral	60-80	10YR 6/4	53	25	22	7.6	7.0	0.32	0.27	5.4			500	

SOIL PROFILE INFORMATION (cont'd.)

Site: Bruce's Mill Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9300	surface	4000	65	110		21	0.48	0.20	0.022	1.1	0.20	0.040	<1.0	60	30	6.8	22
9301	surface	3400	120	77		18	0.40	0.16	0.015	0.98	0.16	0.029	<1.0	55	22	6.2	20
9298	mineral	1800	74	32		9.5	0.67	0.43	0.0040	1.2	0.55	0.040	<1.0	41	23	7.6	7.6
9299	mineral	1300	81	27		7.2	0.84	0.33	0.0030	1.3	0.43	0.015	<1.0	33	13	5.1	6.9
9296	mineral	920	25	24		4.8	0.050	0.070	0.0015	0.58	0.24	0.025	<1.0	26	21	9.3	6.8
9297	mineral	1200	34	24		6.3	0.21	0.21	0.0038	0.76	0.32	0.028	<1.0	33	24	10	5.3
9294	mineral	1700	65	36		9.1	0.060	0.020	0.0060	0.94	0.097	0.036	<1.0	34	24	15	4.5
9295	mineral	1200	47	32		6.5	0.040	0.020	0.0035	0.81	0.084	0.031	<1.0	31	26	12	3.6

SOIL PROFILE INFORMATION

Horizon

surface

mineral

mineral

mineral

Depth (cm)

0
20
40
60
90

Site: Whitchurch Conservation Area

Location Code: 3001039

UTM: 17T 631500 4875550

Landform: kame moraine

Slope: nearly level

Date: 80/06/25

Vegetation: red pine

Comments: irregular, discontinuous bleached horizon

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9307	surface	0-20	7.5YR 3/2	92	4.0	4.0	6.3	5.4	1.3	0.73	9.0			340	
9308	surface	0-20	7.5YR 3/2	91	3.0	5.0	6.3	5.5	1.8	0.74	9.4			370	
9306	mineral	20-40	5YR 8/1	90	2.0	8.0	6.9	5.8	0.59	0.18	2.7			100	
9304	mineral	20-40	7.5YR 5/6	92	1.0	8.0	6.9	6.1	0.69	0.24	2.8			290	
9305	mineral	40-60	7.5YR 5/6	94	<1.0	6.0	7.0	6.2	0.59	0.27	2.9			510	
9302	mineral	60-90	10YR 5/6	93	<1.0	7.0	6.9	6.1	0.25	0.26	3.0			540	
9303	mineral	60-90	10YR 5/6	91	<1.0	9.0	7.1	6.1	0.21	<0.11	1.7			380	

SOIL PROFILE INFORMATION (cont'd.)

Site: Whitchurch Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9307	surface	820	43	25	4.6	4.6	0.070	0.080	0.0032	0.35	0.080	0.011	<1.0	37	23	32	7.4
9308	surface	870	38	25	<4.5	4.7	0.10	0.11	0.0056	0.46	0.11	0.014	<1.0	39	8.6	29	10
9306	mineral	600	34	31		3.4	0.10	0.050	0.00090	0.29	0.040	0.0030	<1.0	25	16	110	<3.0
9304	mineral	640	21	16		3.4	0.13	0.14	0.0011	0.37	0.15	0.0040		26	17	66	<3.0
9305	mineral	570	19	16		3.0	0.090	0.13	0.0016	0.31	0.14	0.0050	<1.0	19	11	57	<3.0
9302	mineral	280	6.0	16		1.5	0.050	0.090	0.0044	0.14	0.050	0.0070	<1.0	20	21	3.6	<3.0
9303	mineral	240	6.0	16		1.3	0.050	0.070	0.0052	0.24	0.0040	0.011	<1.0	13	13	3.6	<3.0

SOIL PROFILE INFORMATION

Horizon

surface

mineral

mineral

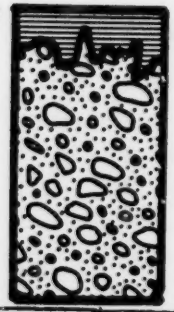
Depth (cm)

0

20

60

90



Site: Roger's Reservoir Conservation Area

Location Code: 3001040

UTM: 17T 623300 4882900

Landform: till plain

Slope: moderate slope

Date: 80/06/25

Vegetation: grass

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9313	surface	0-20	10YR 3/2	77	8.0	14	8.1	7.6	1.8	1.4	6.2			460	
9314	surface	0-20	10YR 3/2	75	9.0	16	7.9	7.5	2.8	2.0	7.8			630	
9311	mineral	20-60	10YR 5/3	70	12	18	8.3	7.8	0.64	0.39	6.0			440	
9312	mineral	20-60	10YR 5/3	68	12	20	8.3	7.8	0.65	0.52	7.1			560	
9309	mineral	60-90	10YR 4/3	72	14	14	8.2	7.7	0.72	0.62	6.6			650	
9310	mineral	60-90	10YR 4/3	74	14	13	8.2	7.8	0.64	0.38	8.4			680	

SOIL PROFILE INFORMATION (cont'd.)

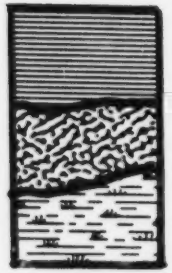
Site: Roger's Reservoir Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9313	surface	1600	51	71		8.6	0.030	0.010	0.0026	0.26	0.010	0.0090	35	32	29	47	6.2
9314	surface	1900	77	84		10	0.030	0.010	0.0030	0.26	0.010	0.0090	32	36	26	30	10
9311	mineral	1100	28	32		5.8	0.030	0.010	0.0018	0.28	0.010	0.0090	27	25	22	4.7	<3.0
9312	mineral	1100	28	24		5.8	0.030	0.010	0.0022	0.30	0.020	0.010	27	25	18	33	<3.0
9309	mineral	1200	30	24		6.3	0.040	0.010	0.0016	0.29	0.010	0.0080	16	23	15	3.9	<3.0
9310	mineral	1200	30	24		6.3	0.040	0.020	0.0022	0.24	0.020	0.0070	16	25	22	3.8	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Sibbald Point Provincial Park

Location Code: 3001041

UTM: 17T 634450 4909600

Landform: sand plain/beach shoreline

Slope: level

Date: 80/06/26

Vegetation: beech, cedar, pine, birch

Comments: distinct mottles common at 60-80 cm depth (10YR 5/8), organic mottles at 30-60 cm depth (10YR 2.5/1), white concretions at 60-80 cm depth.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9321	surface	0-30	10YR2.5/1	76	8.0	16	7.8	7.3	3.4		12			640	
9322	surface	0-30	10YR2.5/1	77	8.0	15	7.8	7.2	3.3	1.9	14			670	
9319	mineral	30-40	10YR 5/4	88	3.0	9.0	8.0	7.2	0.67	0.18	6.3			820	
9320	mineral	30-40	10YR 5/4	87	5.0	9.0	7.8	7.2	0.57	0.16	4.9			790	
9317	mineral	40-60	10YR 5/6	82	4.0	13	8.2	7.3	0.47	0.19	5.1			610	
9318	mineral	40-60	10YR 5/6	83	6.0	11	7.2	7.3	0.47	0.18	4.7			810	
9315	mineral	60-80	10YR 6/2	75	6.0	18	8.8	7.9	0.45	0.17	5.9			850	
9316	mineral	60-80	10YR 6/2	87	4.0	9.0	8.9	8.0	0.31	0.19	4.4			850	

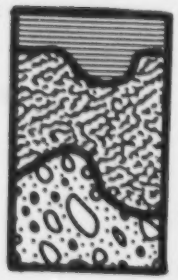
SOIL PROFILE INFORMATION (cont'd.)

Site: Sibbald Point Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9321	surface	2300	67	53		12	0.16	0.10	0.0053	0.46	0.22	0.0090	1.0	26	16	2.5	<3.0
9322	surface	2200	67	45		11	0.19	0.12	0.0060	0.45	0.20	0.0090	1.0	22	6.3	2.9	<3.0
9319	mineral	720	24	27		3.8	0.11	0.040	0.0037	0.47	0.090	0.010	1.0	11	7.5	<2.0	<3.0
9320	mineral	550	19	23		3.0	0.13	0.040	0.0042	0.46	0.10	0.017	1.0	13	7.7	2.7	<3.0
9317	mineral	1000	47	36		5.5	0.070	0.020	0.0024	0.88	0.077	0.020	1.0	17	11	6.5	<3.0
9318	mineral	970	48	34		5.3	0.11	0.030	0.0031	0.81	0.10	0.029	1.0	16	19	5.9	<3.0
9315	mineral	610	21	24		3.3	0.010	<0.0020	0.0015	0.23	0.020	0.0040	19	10	8.6	3.2	<3.0
9316	mineral	530	17	24		2.8	0.010	<0.0020	0.0015	0.38	0.027	0.011	18	12	13	4.4	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Hilton Falls Conservation Area

Location Code: 3001062

UTM: 17T 583000 4817350

Landform: limestone plain

Slope: complex, gentle slopes

Date: 80/07/18

Vegetation: maple, beech, white birch, ironwood

Comments: limestone at 75 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9495	surface	0-17	10YR 3/2	38	45	17	5.6	4.9	3.7	2.8	14			1000	
9496	surface	0-17	10YR 3/2	38	45	17	5.5	4.7	3.8	2.6	14			890	
9493	mineral	17-40	10YR 5/6	41	50	9.0	5.4	4.5	0.67	0.51	13			680	
9494	mineral	17-40	10YR 5/6	42	50	8.0	5.6	4.7	0.67	0.62	11			980	
9491	mineral	40-60	10YR 5/6	48	46	6.0	5.8	4.8	0.36	0.29	11			570	
9492	mineral	40-60	10YR 5/6	45	48	6.0	6.3	5.2	0.31	0.24	5.6			540	
9489	mineral	60-80	5YR 3/4	44	34	21	6.6	5.8	0.19	0.38	4.4			720	
9490	mineral	60-80	5YR 3/4	37	45	18	6.5	5.6	0.20	0.19	3.5			660	

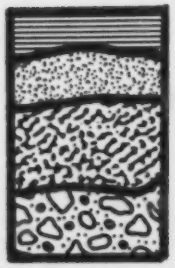
SOIL PROFILE INFORMATION (cont'd.)

Site: Hilton Falls Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9495	surface	1200	250	59	64	8.8	0.22	0.11	0.092	0.96	0.22	0.20		110	24	9.7	26
9496	surface	1100	130	83	14	6.9	0.20	0.11	0.092	0.98	0.23	0.18		110	28	9.9	30
9493	mineral	170	37	34	61	1.7	0.14	0.14	0.023	1.1	0.28	0.084		76	35	13	6.3
9494	mineral	640	120	56	33	4.6	0.15	0.16	0.015	1.1	0.31	0.068		70	34	14	5.7
9491	mineral	100	29	47	12	0.96	0.080	0.090	0.011	0.73	0.17	0.070		43	35	13	5.2
9492	mineral	170	43	34	2.6	1.3	0.060	0.070	0.012	0.74	0.15	0.072	<1.0	41	25	12	5.4
9489	mineral	560	220	20		4.6	0.070	0.020	0.0053	1.3	0.14	0.11	<1.0	66	45	16	6.3
9490	mineral	520	200	22		4.2	0.060	0.020	0.0028	1.2	0.13	0.10	<1.0	62	47	17	4.9

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



surface 0
17
mineral 30
mineral 55
mineral 70

Site: Silent Lake Provincial Park

Location Code: 4001072

UTM: 17T 730950 4977950

Landform: shallow till and rock ridges

Slope: very gentle slope

Date: 80/07/23

Vegetation: white pine, white birch, sugar maple

Comments: very stoney at 55-70 cm
stones throughout profile

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9566	surface	0-17	10YR 3/3	62	32	6.0	5.4	4.6	2.8	1.7	15			1000	
9567	surface	0-17	10YR 3/3	69	25	6.0	5.3	4.6	3.2	1.8	13			1000	
9564	mineral	17-30	10YR 5/8	60	37	3.0	5.4	4.7	1.9	1.1	5.8			1100	
9565	mineral	17-30	10YR 5/8	61	36	3.0	5.4	4.7	1.8	0.92	6.8			1000	
9562	mineral	30-45	10YR 5/6	71	26	3.0	5.7	4.8	1.1	0.59	5.2			1000	
9563	mineral	30-45	10YR 5/6	62	36	2.0	5.5	4.7	1.4	0.70	5.2			1000	
9560	mineral	45-55	10YR 5/6	80	16	4.0	5.7	4.8	0.73	0.36	3.6			960	
9561	mineral	45-55	10YR 5/6	74	22	4.0	5.6	4.8	0.77	0.44	4.4			960	
9558	mineral	55-70	10YR 7/2	84	13	4.0	5.8	5.0	0.25	<0.11	2.6			910	
9559	mineral	55-70	10YR 7/2	80	16	4.0	5.9	5.0	0.21	<0.11	2.4			930	

SOIL PROFILE INFORMATION (cont'd.)

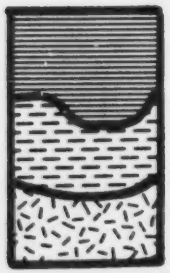
Site: Silent Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al	100g	Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9566	surface	150	13	120	36	1.5	0.22	0.42	0.015	1.1	0.54	0.033		50	17	6.1	11
9567	surface	170	13	130	41	1.7	0.24	0.47	0.016	1.2	0.59	0.038		53	17	5.8	12
9564	mineral	64	2.2	50	15	0.60	0.15	0.44	0.0012	0.94	0.68	0.0080		38	9.2	7.3	<3.0
9565	mineral	74	2.2	45	13	0.63	0.14	0.44	0.0012	0.92	0.66	0.0070		36	9.7	6.8	<3.0
9562	mineral	53	2.2	40	11	<0.50	0.080	0.23	0.00070	0.58	0.41	0.0040		34	15	8.7	<3.0
9563	mineral	42	2.2	40	14	<0.50	0.070	0.18	0.00050	0.54	0.45	0.0030		30	11	6.2	<3.0
9560	mineral	42	2.4	45	9.0	<0.50	0.050	0.15	0.00040	0.43	0.26	0.0020		30	21	9.7	<3.0
9561	mineral	53	2.2	45	10	<0.50	0.050	0.15	0.00040	0.48	0.33	0.0030		30	18	8.9	<3.0
9558	mineral	21	2.4	50	5.0	<0.50	0.010	0.070	0.00040	0.28	0.11	0.0050		24	33	7.7	<3.0
9559	mineral	21	2.4	55	5.0	<0.50	0.010	0.060	0.00040	0.28	0.11	0.0060		23	37	8.1	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Darlington Provincial Park

Location Code: 3001073

UTM: 17T 678500 4860200

Landform: clay plain

Slope: level

Date: 80/07/29

Vegetation: pine reforested

Comments: evidence of plowing

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9584	surface	0-10	10YR 3/2	39	30	32	6.2	5.5	2.8	1.7	17			720	
9585	surface	0-10	10YR 3/2	33	36	30	6.2	5.6	3.0	1.4	15			670	
9582	surface	10-30	10YR 4/2	27	36	37	6.6	6.0	1.3	0.87	12			660	
9583	surface	10-30	10YR 4/2	35	32	32	6.5	5.9	1.3	0.94	12			610	
9580	mineral	30-50	10YR 5/4	20	33	46	7.0	6.5	0.69	0.51	14			800	
9581	mineral	30-50	10YR 5/4	21	33	46	7.0	6.4	0.49	0.44	13			770	
9578	mineral	50+	10YR 4/3	8.0	35	57	7.5	7.1	0.47	0.66	24			1100	
9579	mineral	50+	10YR 4/3	9.0	33	59	7.5	7.1	0.47	0.53	25			1000	

SOIL PROFILE INFORMATION (cont'd.)

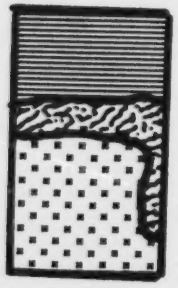
Site: Darlington Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9584	surface	1900	130	100		11	0.12	0.050	0.014	0.82	0.11	0.029	<1.0	64	14	15	22
9585	surface	1800	130	100		10	0.13	0.050	0.015	0.87	0.11	0.031	<1.0	64	14	15	27
9582	surface	2100	140	70		12	0.13	0.050	0.0066	1.1	0.13	0.040	<1.0	65	18	21	8.7
9583	surface	1800	120	65		10	0.12	0.050	0.0076	0.86	0.11	0.030	<1.0	56	14	15	8.5
9580	mineral	2800	160	55		15	0.10	0.040	0.0038	1.1	0.13	0.039	<1.0	71	22	25	7.5
9581	mineral	3000	180	58		17	0.090	0.030	0.0034	1.1	0.13	0.040	<1.0	69	22	27	5.5
9578	mineral	4200	240	100		23	0.020	0.010	0.0024	1.1	0.13	0.047	1.0	100	35	38	8.5
9579	mineral	4000	200	88		22	0.040	0.030	0.0036	1.2	0.14	0.047	1.0	95	34	37	9.1

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Enniskillen Conservation Area

Location Code: 3001074

UTM: 17T 677850 4874800

Landform: drumlin

Slope: moderate slopes

Date: 80/07/29

Vegetation: pine, fir, grass

Comments: white chalk, carbonate concretions at depth

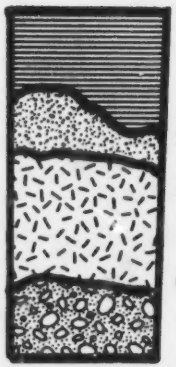
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9594	surface	0-10	10YR 3/2	66	21	13	8.2	7.6	1.4	1.1	11			780	
9595	surface	0-10	10YR 3/2	62	25	13	8.2	7.6	1.1	0.89	7.8			530	
9592	surface	10-30	10YR 3/3	61	27	12	8.3	7.7	1.1	0.85	8.2			720	
9593	surface	10-30	10YR 3/3	58	27	15	8.2	7.7	0.78	0.66	6.9			680	
9590	mineral	30-40	7.5Y 4/4	56	29	15	8.5	7.8	0.53	0.42	5.4			860	
9591	mineral	30-40	7.5Y 4/4	54	31	16	8.3	7.8	0.49	0.33	6.4			710	
9588	mineral	40-60	2.5Y 6/2	69	18	13	9.0	8.0	0.19	<0.13	2.3			380	
9589	mineral	40-60	2.5Y 6/2	64	25	12	8.9	7.9	0.23	0.16	3.9			490	
9586	mineral	60+	2.5Y 6/2	67	24	9.0	9.0	7.8	0.15	<0.13	2.5			470	
9587	mineral	60+	2.5Y 6/2	62	25	13	9.0	7.9	0.17	<0.14	3.3			450	

SOIL PROFILE INFORMATION (cont'd.)

Site: Enniskillen Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9594	surface	1400	27	67		7.4	0.030	0.030	0.0076	0.52	0.070	0.026	4.0	35	4.6	5.0	7.1
9595	surface	1400	18	38		7.2	0.030	0.030	0.0054	0.58	0.080	0.030	4.0	37	4.9	5.2	6.0
9592	surface	1500	13	23		7.5	0.040	0.030	0.0067	0.65	0.090	0.031	5.0	33	4.4	5.6	5.5
9593	surface	1300	13	13		6.8	0.040	0.13	0.0071	0.59	0.080	0.028	4.0	33	5.0	5.4	4.7
9590	mineral	1300	11	16		6.8	0.030	0.020	0.0033	0.82	0.090	0.037	8.0	31	8.0	9.3	3.2
9591	mineral	1200	6.7	14		6.2	0.080	0.040	0.0035	0.75	0.10	0.036	2.0	35	6.0	7.8	<3.0
9588	mineral	510	1.0	10		2.6	<0.0003	<0.0020	0.0011	0.28	0.020	0.014	42	16	5.9	4.3	<3.0
9589	mineral	660	4.5	9.0		3.4	<0.0003	<0.0020	0.0011	0.31	0.030	0.016	37	17	6.1	5.0	<3.0
9586	mineral	460	1.0	7.0		2.3	<0.0003	<0.0020	0.0010	0.23	0.020	0.011	36	13	5.5	3.1	3.3
9587	mineral	540	2.9	7.0		2.7	<0.0003	<0.0020	0.00090	0.25	0.020	0.013	39	14	5.8	4.2	<3.0

SOIL PROFILE INFORMATION



Site: Glenn Haffy Conservation Area

Location Code: 3001075

UTM: 17T 583850 4865600

Landform: kame moraine

Slope: nearly level

Date: 80/08/07

Vegetation: beech, maple, pine, oak

Comments: stoney at 50-60 cm.

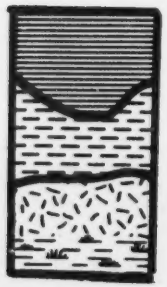
Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9604	surface	0-10	10YR 3/2	24	54	22	5.3	4.5	9.5	5.0	21			670	
9605	surface	0-10	10YR 3/2	24	50	25	5.2	4.4	9.1	5.6	20			710	
9602	surface	10-30	10YR 3/2	24	57	18	5.4	4.5	3.9	2.7	13			460	
9603	surface	10-30	10YR 3/2	26	55	19	5.5	4.6	4.5	2.8	14			480	
9600	mineral	30-35	10YR 4/3	34	53	13	6.1	5.0	1.8	1.3	6.8			430	
9601	mineral	30-35	10YR 4/3	32	55	13	6.0	5.1	1.9	1.1	7.5			400	
9598	mineral	35-60	10YR 6/4	48	44	7.0	6.6	5.4	0.57	0.37	4.5			620	
9599	mineral	35-60	10YR 6/4	53	36	11	6.6	5.6	0.37	0.21	4.1			620	
9596	mineral	60+	10YR 6/3	51	36	13	7.2	6.1	0.25	0.27	4.2			580	
9597	mineral	60+	10YR 6/3	53	26	20	7.0	6.3	0.29	0.38	5.9			630	

SOIL PROFILE INFORMATION (cont'd.)

Site: Glenn Haffy Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al	100g	Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9604	surface	2000	200	73	37	12	0.43	0.23	0.014	1.1	0.25	0.024		58	9.3	6.7	27
9605	surface	2000	200	73	48	12	0.43	0.23	0.012	1.2	0.27	0.025		52	9.0	6.1	24
9602	surface	1400	140	27	45	8.6	0.55	0.29	0.0072	1.3	0.31	0.015		46	6.7	4.8	9.2
9603	surface	1400	140	27	37	8.6	0.54	0.29	0.0071	1.1	0.30	0.013		47	7.0	5.4	9.1
9600	mineral	890	81	9.0	8.9	5.2	0.42	0.34	0.0037	1.1	0.38	0.014		45	7.1	8.3	4.0
9601	mineral	930	93	9.0	9.1	5.5	0.45	0.33	0.0031	1.1	0.38	0.013	<1.0	49	8.3	8.3	5.0
9598	mineral	470	64	<2.0	2.6	3.1	0.16	0.15	0.0051	0.78	0.20	0.024	<1.0	23	6.5	6.8	<3.0
9599	mineral	290	27	6.7		1.7	0.10	0.090	0.0032	0.65	0.13	0.022	<1.0	19	7.8	6.2	<3.0
9596	mineral	670	62	12		3.9	0.090	0.040	0.0041	0.94	0.12	0.064	<1.0	27	17	8.2	3.9
9597	mineral	1200	110	19		7.1	0.15	0.050	0.0039	1.6	0.19	0.15	<1.0	43	35	15	6.4

SOIL PROFILE INFORMATION



Site: Heart Lake Conservation Area

Location Code: 3001076

UTM: 17T 596950 4843850

Landform: till plain

Slope: gentle slope

Date: 80/08/07

Vegetation: beech, pine, maple

Comments: faint mottling at 7C cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9614	surface	0-10	10YR 3/2	27	36	36	7.0	6.4	4.6	3.7	13			560	
9615	surface	0-10	10YR 3/2	28	37	35	6.8	6.2	3.9	2.7	16			570	
9612	surface	10-35	10YR 4/3	33	38	29	7.2	6.6	3.7	1.7	10			510	
9613	surface	10-35	10YR 4/3	35	38	28	7.2	6.5	2.0	1.2	8.6			420	
9610	mineral	35-50	10YR 3/3	15	39	46	7.2	6.7	3.3	2.4	17			760	
9611	mineral	35-50	10YR 3/3	16	35	49	7.2	6.7	2.7	2.2	16			740	
9608	mineral	50-60	10YR 6/3	32	42	26	7.5	6.8	0.49	0.53	8.3			380	
9609	mineral	50-60	10YR 6/3	29	41	30	7.4	6.8	0.53	0.66	7.0			470	
9606	mineral	60-80	10YR 5/3	27	38	35	7.3	6.8	0.39	0.50	9.1			470	
9607	mineral	60-80	10YR 5/3	33	37	30	7.3	6.9	0.35	0.49	9.0			600	

SOIL PROFILE INFORMATION (cont'd.)

Site: Heart Lake Conservation Area

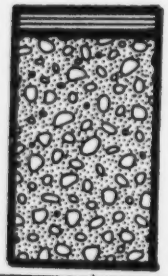
Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9614	surface	3100	260	120		18	0.23	0.090	0.059	1.1	0.16	0.079	<1.0	93	23	20	25
9615	surface	2800	240	100		16	0.21	0.080	0.047	1.1	0.16	0.080	<1.0	8.4	21	18	22
9612	surface	2200	180	72		13	0.21	0.10	0.025	1.1	0.17	0.087	<1.0	73	20	17	9.8
9613	surface	2000	162	67		11	0.22	0.090	0.023	1.1	0.16	0.087	<1.0	67	19	16	9.3
9610	mineral	3400	330	87		20	0.36	0.16	0.051	1.8	0.30	0.27	<1.0	99	35	30	10
9611	mineral	3300	330	84		19	0.37	0.16	0.052	1.9	0.32	0.30	<1.0	100	34	29	11
9608	mineral	1700	160	54		9.9	0.14	0.050	0.0064	1.5	0.16	0.15	<1.0	59	22	21	8.8
9609	mineral	1600	170	54		9.4	0.15	0.050	0.0063	1.5	0.16	0.11	<1.0	65	26	21	8.9
9606	mineral	1700	140	56		10	0.010	0.030	0.0029	1.7	0.17	0.085	<1.0	68	32	25	7.7
9607	mineral	1600	170	54		9.4	0.10	0.030	0.0047	1.6	0.17	0.10	<1.0	65	33	26	7.9

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0 5

mineral 80



Site: Watershed B, Dorset

Location Code: 3001088

UTM: 17T 662350 5010350

Landform: shallow till and rock ridge

Slope: strong slopes

Date: 80/08/19

Vegetation: maple

Comments: exceedingly stoney (granitic)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9731	surface	0-5	7.5YR 3/2	54	39	7.0	5.6	4.6	3.8	2.4	9.6			650	
9732	surface	0-5	7.5YR 3/2	56	36	8.0	6.0	5.0	3.9	2.0	8.7			580	
9729	mineral	5-30	7.5YR 4/4	59	36	6.0	5.9	4.8	2.4	1.4	5.4			700	
9730	mineral	5-30	7.5YR 4/4	58	38	4.0	5.8	4.8	2.5	1.5	6.2			890	
9727	mineral	30-50	7.5YR 4/4	60	36	4.0	5.7	4.7	1.8	1.3	5.5			1300	
9728	mineral	30-50	7.5YR 4/4	56	38	6.0	5.8	4.7	1.9	1.3	5.7			650	
9725	mineral	50-80	7.5YR 4/4	48	45	7.0	5.7	4.7	1.9	1.2	6.5			3700	
9726	mineral	50-80	7.5YR 4/4	53	42	4.0	5.7	4.7	1.7	1.1	4.3			2400	

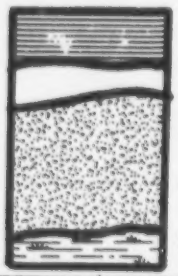
SOIL PROFILE INFORMATION (cont'd.)

Site: Watershed B, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9731	surface	500	39	43	33	3.3	0.44	0.38	0.026	1.7	0.79	0.042		300	24	15	6.8
9732	surface	1100	66	49	8.0	6.1	0.40	0.35	0.045	1.7	0.68	0.059		300	16	16	7.5
9729	mineral	260	17	18	26	1.7	0.40	0.47	0.0061	1.6	0.81	0.020		260	26	18	5.3
9730	mineral	300	17	18	22	1.9	0.38	0.47	0.0032	1.5	0.87	0.011		210	21	17	4.9
9727	mineral	180	12	18	33	1.4	0.40	0.34	0.0036	1.4	0.71	0.016		230	20	14	4.5
9728	mineral	210	12	18	25	1.5	0.33	0.32	0.0040	1.4	0.73	0.017		230	18	15	3.5
9725	mineral	170	17	18	35	1.4	0.49	0.40	0.0026	1.6	0.78	0.012		190	120	13	4.6
9726	mineral	170	12	18	36	1.4	0.44	0.39	0.0023	1.5	0.75	0.011		210	24	15	5.7

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Paint Lake, Dorset

Location Code: 3001089

UTM: 17T 662250 5009750

Landform: shallow till and rock ridge

Slope: level

Date: 80/08/19

Vegetation: grass, pine

Comments: discontinuous, irregular bleached horizon, faint mottling at 80+ cm (10YR 5/8)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9742	surface	0-20	10YR 3/3	73	22	5.0	6.0	4.8	2.1	1.2	6.9			290	
9743	surface	0-20	10YR 3/3	72	22	5.0	6.0	4.9	1.9	1.2	6.7			250	
9741	mineral	20-30	10YR 6/2	78	18	4.0	6.5	5.1	0.60	0.34	2.4			90	
9739	mineral	30-40	5YR 3/3	84	13	3.0	6.2	5.0	2.2	0.94	7.3			220	
9740	mineral	30-40	5YR 3/3	82	15	4.0	6.1	4.9	2.1	1.1	3.0			260	
9737	mineral	40-60	10YR 5/8	85	15	<1.0	6.0	4.9	0.98	0.52	2.1			500	
9738	mineral	40-60	10YR 5/8	84	11	5.0	5.8	5.0	0.88	0.47	2.4			550	
9735	mineral	60-80	10YR 5/6	82	16	2.0	6.0	4.8	1.1	0.36	2.4			480	
9736	mineral	60-80	10YR 5/6	72	25	3.0	5.9	4.8	0.97	0.51	2.7			570	
9733	mineral	80+	2.5Y 4/2	46	51	3.0	6.0	4.9	0.51	0.22	2.1			750	
9734	mineral	80+	2.5Y 4/2	38	58	4.0	5.8	4.9	0.27	0.18	1.3			870	

SOIL PROFILE INFORMATION (cont'd.)

Site: Paint Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9742	surface	380	12	12	7.0	2.1	0.39	0.25	0.0036	1.0	0.45	0.0070		26	11	2.6	3.8
9743	surface	470	9.0	32	17	2.7	0.37	0.21	0.0035	0.97	0.44	0.0060		27	8.7	2.8	<3.0
9741	mineral	310	12	6.0	3.0	1.7	0.11	0.070	0.00070	0.31	0.10	0.0020		6.8	6.5	<2.0	<3.0
9739	mineral	370	7.0	6.0	9.0	2.0	0.46	0.50	0.00040	0.77	0.82	0.0020		13	11	<2.0	<3.0
9740	mineral	370	7.0	6.0	12	2.1	0.45	0.48	0.00040	0.79	0.81	0.0010		18	12	<2.0	<3.0
9737	mineral	130	2.0	6.0	13	0.82	0.23	0.35	0.00060	0.81	0.57	0.0030		35	12	7.0	<3.0
9738	mineral	170	2.0	6.0	10	0.98	0.22	0.30	0.00080	0.76	0.53	0.0030		37	10	7.4	<3.0
9735	mineral	96	5.0	6.0	16	0.69	0.26	0.32	0.00060	1.1	0.65	0.0040		39	13	9.2	<3.0
9736	mineral	120	5.0	6.0	18	0.83	0.25	0.25	0.00050	0.76	0.52	0.0030		27	12	5.5	<3.0
9733	mineral	72	2.2	18	11	0.54	0.20	0.20	0.00060	0.67	0.25	0.0010		33	14	8.7	<3.0
9734	mineral	60	2.0	24	15	0.53	0.080	0.12	0.00050	0.55	0.15	0.0040		34	15	8.5	<3.0

SOIL PROFILE INFORMATION

Horizon

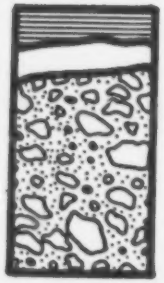
surface

mineral

mineral

mineral

Depth (cm)



Site: Plastic Lake, Dorset

Location Code: 3001090

UTM: 17T 670700 5004950

Landform: shallow till and rock ridges

Slope: moderate slope

Date: 80/08/19

Vegetation: maple, beech, pine

Comments: depth to granitic bedrock 55 cm exceedingly stoney. Organic contamination in sampling bleached horizon at 10-20 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9751	surface	0-10	5YR 3/2	57	31	13	4.5	3.6	11	4.2	22			290	
9752	surface	0-10	5YR 3/2	60	29	12	4.8	3.8	6.5	2.9	18			290	
9750	mineral	10-20	5YR 7/1	66	28	5.0	5.0	4.1	1.4	0.53	5.0			110	
9748	mineral	20-30	10YR 4/3	73	23	4.0	5.3	4.6	2.8	1.7	6.0			390	
9749	mineral	20-30	10YR 4/3	70	32	2.0	5.3	4.6	3.2	1.5	6.9			360	
9746	mineral	30-50	5YR 4/4	70	26	3.0	5.5	4.7	2.2	1.1	9.4			360	
9747	mineral	30-50	5YR 4/4	70	27	3.0	5.4	4.7	2.3	1.3	6.5			400	
9744	mineral	50-55	5YR 4/4	80	17	3.0	5.4	4.7	1.4	0.81	7.0			410	
9745	mineral	50-55	5YR 4/4	74	24	3.0	5.4	4.7	1.9	0.91	6.5			320	

SOIL PROFILE INFORMATION (cont'd.)

Site: Plastic Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9751	surface	1400	140	110	86	9.3	0.21	0.070	0.0081	0.56	0.11	0.0080		56	24	5.7	47
9752	surface	870	91	110	160	6.9	0.25	0.11	0.0047	0.76	0.18	0.0060		42	27	4.8	29
9750	mineral	210	23	22	110	2.4	0.22	0.070	0.00040	0.62	0.11	0.0010		15	7.0	<2.0	4.2
9748	mineral	88	9.0	22	25	0.81	0.33	0.69	0.00080	1.9	1.3	0.0040		53	8.8	8.1	<3.0
9749	mineral	88	13	27	38	1.0	0.49	0.92	0.0014	1.8	1.4	0.0040		49	12	7.3	3.1
9746	mineral	99	9.0	16	20	0.81	0.28	0.62	0.00050	1.5	0.96	0.0030		46	12	9.8	<3.0
9747	mineral	99	9.0	22	20	0.82	0.23	0.58	0.00040	1.6	1.1	0.0030		45	12	8.7	<3.0
9744	mineral	140	4.5	11	16	0.92	0.15	0.23	0.00040	0.83	0.59	0.0020		35	16	8.7	<3.0
9745	mineral	79	4.5	11	20	0.65	0.20	0.51	0.00040	1.2	0.83	0.0020		41	14	9.2	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

Site: Arrowhead Provincial Park

Location Code: 3001091

UTM: 17T 640000 5028000

Landform: sand plain

Slope: very gentle slopes

Date: 80/08/20

Vegetation: pine, spruce, maple

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (ug/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9759	surface	0-20	10YR2.5/1				4.3	3.8	26	11				440	
9760	surface	0-20	10YR2.5/1				4.0	3.4	25	9.0	57			360	
9757	mineral	20-30	5YR 6/1	84	14	2.0	4.6	3.7	0.56	0.26	3.1			70	
9758	mineral	20-30	5YR 6/1	87	9.0	4.0	4.6	3.7	0.41	0.45	2.0			50	
9755	mineral	30-50	2.5YR 2.5/4	93	4.0	3.0	5.2	4.3	2.1	1.4	4.2			480	
9756	mineral	30-50	2.5YR 2.5/4	89	7.0	4.0	5.2	4.3	2.2	1.2	2.8			380	
9753	mineral	50-70	7.5YR 4/4	96	3.0	1.0	5.5	4.5	0.40	0.23	1.4			500	
9754	mineral	50-70	7.5YR 4/4	94	2.0	4.0	5.5	4.6	0.56	0.24	2.0			360	

SOIL PROFILE INFORMATION (cont'd.)

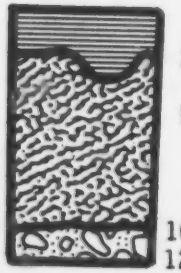
Site: Arrowhead Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9759	surface	380	360	250	11	5.5	0.070	0.050	0.013	0.25	0.055	0.012		58	36	11	74
9760	surface	300	230	54	530	8.8	0.050	0.040	0.0073	0.20	0.049	0.0070		53	30	13	88
9757	mineral	67	10	9.0	27	0.71	0.030	0.010	0.00040	0.18	0.014	0.00090		4.9	5.4	<2.0	<3.0
9758	mineral	67	10	14	33	0.78	0.050	0.020	0.00040	0.23	0.023	0.0020		7.2	7.8	<2.0	<3.0
9755	mineral	180	13	5.0	120	2.3	0.69	0.59	0.00070	1.0	0.60	0.0030		23	8.3	2.6	<3.0
9756	mineral	170	13	11	110	2.1	0.90	0.57	0.00070	1.2	0.57	0.0030		23	9.9	3.1	<3.0
9753	mineral		9.0	11	22		0.050	0.13	0.00040	0.20	0.20	0.0010		19	12	6.2	<3.0
9754	mineral	59	5.0	5.0	21	0.55	0.050	0.13	0.00040	0.24	0.29	0.0030		16	8.7	5.6	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Six Mile Lake Provincial Park

Location Code: 3001093

UTM: 17T 598750 4971150

Landform: shallow till and rock ridges

Slope: nearly level

Date: 80/08/21

Vegetation: pine, ferns, shrubs

Comments: slightly stoney in the mineral horizons, evidence of past disturbance

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9781	surface	0-20	10YR 3/2	62	24	14	5.9	5.1	7.0	2.4	10			600	
9782	surface	0-20	10YR 3/2	63	24	13	5.8	4.9	5.9	2.1	10			550	
9779	mineral	20-50	10YR 4/4	59	32	9.0	5.8	4.8	1.5	0.62	6.7			440	
9780	mineral	20-50	10YR 4/4	61	26	14	5.8	4.8	1.1	0.70	6.0			380	
9777	mineral	50-80	10YR 5/6	66	24	10	5.7	4.7	1.6	0.56	7.1			470	
9778	mineral	50-80	10YR 5/6	50	34	16	5.8	4.7	1.6	0.59	7.0			470	
9775	mineral	80-100	10YR 5/6	78	15	8.0	6.1	5.1	0.25	0.30	4.4			640	
9776	mineral	80-100	10YR 5/6	80	15	5.0	6.0	5.0	0.57	0.24	5.2			580	
9773	mineral	100-120	10YR 6/3	86	11	2.0	6.1	5.2	0.44	0.21	4.5			460	
9774	mineral	100-120	10YR 6/3	91	7.0	3.0	6.2	5.2	0.25	0.17	0.50			560	

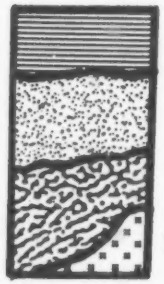
SOIL PROFILE INFORMATION (cont'd.)

Site: Six Mile Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9781	surface	1400	160	80	18	8.7	0.24	0.31	0.041	0.83	0.37	0.041	<1.0	91	13	13	26
9782	surface	1400	130	140	16	8.7	0.22	0.30	0.032	0.74	0.32	0.031		82	13	12	20
9779	mineral	280	41	43	41	2.2	0.080	0.10	0.00060	0.39	0.19	0.0010		29	14	5.7	<3.0
9780	mineral		41	43	38		0.090	0.14	0.00050	0.38	0.17	0.0020		41	10	9.7	<3.0
9777	mineral	220	36	60	64	2.2	0.18	0.24	0.00090	0.65	0.29	0.0020		44	14	12	<3.0
9778	mineral	280	36	43	53	2.3	0.18	0.24	0.0011	0.74	0.33	0.0030		47	12	12	<3.0
9775	mineral	110	13	49	15	0.92	0.11	0.18	0.00040	0.51	0.26	0.0030		39	14	13	<3.0
9776	mineral	240	18	49	19	1.7	0.090	0.15	0.00040	0.46	0.23	0.0010		33	19	11	<3.0
9773	mineral	99	4.5	19	5.0	0.63	0.040	0.13	0.00040	0.16	0.16	0.00080		15	7.7	5.5	<3.0
9774	mineral	69	4.5	11	4.5	<0.50	0.020	0.12	0.00040	0.12	0.14	0.00080		13	6.7	4.9	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: MNR York Region Forest, North Tract-Ballantrae

Location Code: 3001121

UTM: 17T 635300 4875850

Landform: kame moraine

Slope: very gentle slopes

Date: 80/10/30

Vegetation: red pine

Comments: reforested area

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9991	surface	0-20	10YR2.5/1	88	8.0	4.0	4.9	4.0	2.2	1.1	13			450	
9992	surface	0-20	10YR2.5/1	83	5.0	12	5.1	4.2	3.3	1.4	18			470	
9989	mineral	20-60	7.5YR 5/6	91	9.0	<1.0	6.3	5.4	0.63	0.40	7.3			540	
9990	mineral	20-60	7.5YR 5/6	92	4.0	4.0	6.0	5.1	0.63	0.61	7.2			560	
9987	mineral	60-75	7.5YR 5/6	95	4.0	1.0	6.6	5.7	0.52	0.47	7.9			710	
9988	mineral	60-75	7.5YR 5/6	96	<1.0	4.0	6.7	5.9	0.37	0.27	6.1			450	
9985	mineral	75-85	10YR 5/6	94	2.0	4.0	6.8	5.8	0.36	0.32	7.1			730	
9986	mineral	75-85	10YR 5/6	96	3.0	<1.0	6.8	5.9	0.60	0.35	6.5			610	
9983	mineral	85-100	10YR 6/3	100	<1.0	<1.0	8.6	7.8	0.070	0.19	3.0			460	
9984	mineral	85-100	10YR 6/3	100	<1.0	<1.0	8.4	7.7	0.050	0.13	4.4			360	

SOIL PROFILE INFORMATION (cont'd.)

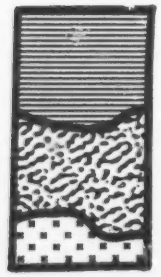
Site: MNR York Region Forest, North Tract - Ballantrae

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9991	surface	660	27	32	73	4.3	0.14	0.090	0.010	0.42	0.10	0.013		38	29	36	16
9992	surface	620	36	32	43	3.9	0.11	0.090	0.016	0.38	0.090	0.017		34	11	5.0	18
9989	mineral	540	32	11	4.0	3.0	0.24	0.14	0.0072	0.47	0.15	0.011	<1.0	27	27	19	<3.0
9990	mineral	550	27	16	6.0	3.1	0.15	0.080	0.0042	0.46	0.12	0.012	<1.0	24	32	28	<3.0
9987	mineral	510	21	7.1		2.7	0.18	0.17	0.0078	0.60	0.22	0.016	<1.0	30	34	26	8.9
9988	mineral	510	18	4.3		2.7	0.16	0.12	0.0086	0.51	0.16	0.014	<1.0	29	39	25	3.7
9985	mineral	410	14	10		2.2	0.10	0.15	0.0098	0.42	0.18	0.017	<1.0	18	15	62	4.7
9986	mineral	500	14	7.1		2.6	0.13	0.19	0.011	0.55	0.24	0.021	<1.0	24	33	39	8.3
9983	mineral	290	4.6	7.1		1.5	0.010	0.010	0.0017	0.24	0.040	0.010	35	15	15	53	<3.0
9984	mineral	330	4.6	7.1		1.7	0.020	0.010	0.0018	0.25	0.040	0.011	32	14	10	63	4.6

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Greenwood Conservation Area

Location Code: 3001122

UTM: 17T 655600 4862350

Landform: sand plain/beach

Slope: moderate slope

Date: 80/07/29

Vegetation: pine, sumac, maple, grass

Comments: large rounded granitic boulders throughout pit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9576	surface	0-10	10YR 3/2	74	11	15	8.0	7.4	1.4	0.79	6.6			770	
9577	surface	0-10	10YR 3/2	70	12	18	8.0	7.4	1.8	0.92	7.6			830	
9574	surface	10-32	10YR 3/2	73	13	14	7.7	7.1	1.0	0.61	6.0			830	
9575	surface	10-32	10YR 3/2	71	14	14	7.8	7.2	1.3	0.80	6.7			780	
9572	mineral	32-50	7.5YR 4/4	79	11	10	7.7	7.1	0.51	0.29	5.9			670	
9573	mineral	32-50	7.5YR 4/4	76	13	11	7.8	7.1	0.59	0.41	5.5			740	
9570	mineral	50-70	10YR 5/6	89	4.0	7.0	8.1	7.4	0.33	<0.10	3.2			690	
9571	mineral	50-70	10YR 5/6	88	2.0	11	8.0	7.2	0.15	<0.11	3.6			790	
9568	mineral	70-90	7.5YR 6/2	90	1.0	9.0	8.9	7.7	0.19	<0.09	2.1			280	
9569	mineral	70-90	7.5YR 6/2	90	<1.0	10	8.9	7.8	0.090	<0.11	2.2			240	

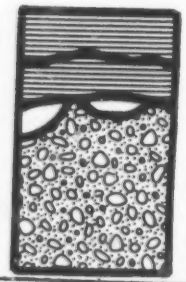
SOIL PROFILE INFORMATION (cont'd.)

Site: Greenwood Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9576	surface	1400	17	40		7.1	0.060	0.050	0.010	0.76	0.13	0.048		54	6.9	34	13
9577	surface	1300	17	40		6.9	0.070	0.060	0.011	1.0	0.18	0.062	5.0	66	8.2	9.0	16
9574	surface	1100	14	35		5.9	0.10	0.080	0.0079	0.83	0.16	0.055	4.0	56	6.5	6.9	8.7
9575	surface	1300	17	40		6.9	0.060	0.060	0.011	0.95	0.17	0.065	4.0	59	6.7	6.9	10
9572	mineral	950	14	25		4.9	0.080	0.070	0.0050	0.79	0.16	0.034	7.0	44	6.8	5.6	6.1
9573	mineral	1000	14	30		5.2	0.070	0.060	0.0037	0.84	0.17	0.59	5.0	54	6.7	7.6	6.5
9570	mineral	470	6.7	15		2.4	0.020	0.010	0.0030	0.31	0.050	0.017	2.0	15	3.8	4.8	3.4
9571	mineral	430	8.7	15		2.3	0.020	0.010	0.0015	0.37	0.060	0.019	3.0	16	3.6	5.7	<3.0
9568	mineral	430	1.0	5.0		2.2	0.010	0.010	0.00090	0.22	0.040	0.011	25	11	5.9	140	3.1
9569	mineral	430	2.9	7.0		2.2	0.010	0.010	0.0010	0.19	0.030	0.010	25	9.4	4.6	100	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Plastic Lake, Dorset

Location Code: 3001124

UTM: 17T 640750 5004750

Landform: shallow till and rock ridges

Slope: level

Date: 81/05/14

Vegetation: oak

Comments: north of 1981 biogeochemical site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17161	surface	5-10	10YR 2/1	47	28	25	4.1	3.6	7.0	5.3					
17160	surface	5-10	10YR 2/1	57	25	18	3.9	3.4	4.0	2.5			9.0		21
17159	mineral	10-12	5YR 4/2	59	29	11	4.1	3.5	2.0	0.70			23		31
17158	mineral	12-25	10YR 3/6	57	32	11	4.9	4.5	5.0	2.2			5.0		8.9
17157	mineral	12-25	10YR 3/6	51	40	10	5.0	4.5	4.0	2.2			<3.0		7.8
17156	mineral	25-40	10YR 3/6	55	31	14	4.8	4.2	6.0	2.5			23		14
17155	mineral	25-40	10YR 3/6	47	40	13	4.8	4.2	6.0	3.0			27		16

SOIL PROFILE INFORMATION (cont'd.)

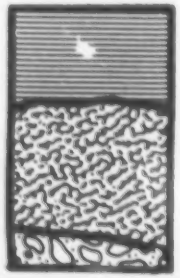
Site: Plastic Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17161	surface	1000	69	180	240	8.4	0.40	0.22	0.023	0.99	0.25	0.030		49	7.6	2.9	34
17160	surface	360	37	53	170	4.0	0.18	0.12	0.0077	0.58	0.15	0.0088		27	7.1	2.3	24
17159	mineral	39	8.0	28	190	2.1	0.30	0.19	0.0039	0.90	0.20	0.0059		22	4.6	<2.0	7.6
17158	mineral	30	5.0	13	51	0.74	0.44	0.85	0.0019	1.6	1.3	0.0066		80	6.1	6.0	<3.0
17157	mineral	20	3.0	15	47	0.63	0.42	0.83	0.0018	1.6	1.2	0.0056		80	6.6	5.9	<3.0
17156	mineral	49	7.0	37	98	1.4	0.58	0.95	0.0065	1.5	1.3	0.011		72	8.6	6.3	<3.0
17155	mineral	59	5.0	42	99	1.4	0.80	0.86	0.0098	1.6	1.3	0.014		87	6.6	5.6	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface

0

20

mineral

mineral

40

Site: Sibbald Point Provincial Park

Location Code: 3001125

UTM: 17T 634250 4908950

Landform: sand plain/beach

Slope: level

Date: 81/05/21

Vegetation: sugar maple, white birch, beech, ironwood

Comments: large erratics at site, stones at 40 cm+

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17186	surface	0-20	10YR 2/2	69	13	17	6.2	5.5	1.0	1.4			<3.0		0.40
17185	mineral	20-40	10YR 4/4	70	11	18	6.9	6.1	2.0	0.90			<3.0		<0.080
17184	mineral	20-40	10YR 4/4	71	14	15	6.7	6.1	2.0	0.70			<3.0		<0.080
17183	mineral	40-50	10YR 4/4	66	16	18	7.1	6.4	2.0	0.60			<3.0		0.11
17182	mineral	40-50	10YR 4/4	72	11	17	7.3	6.5	2.0	0.50			<3.0		<0.080

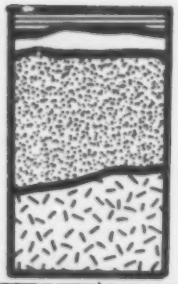
SOIL PROFILE INFORMATION (cont'd.)

Site: Sibbald Point Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17186	surface	1600	60	54	<4.5	8.6	0.28	0.18	0.012	1.4	0.33	0.021	<1.0	65	8.6	10	8.2
17185	mineral	1300	33	20		6.8	0.24	0.18	0.0078	1.6	0.37	0.022	<1.0	48	7.1	9.0	3.5
17184	mineral	1400	36	20		7.3	0.24	0.18	0.0069	1.7	0.36	0.020	<1.0	54	7.1	9.5	6.8
17183	mineral	1500	40	22		7.9	0.28	0.22	0.011	1.7	0.31	0.030	<1.0	54	10	10	11
17182	mineral	1600	39	22		8.3	0.21	0.17	0.011	1.6	0.30	0.033	<1.0	60	10	11	6.9

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Blue Chalk Lake, Dorset

Location Code: 3001128

UTM: 17T 662200 5006650

Landform: shallow till

Slope: level

Date: 81/06/02

Vegetation: maple, birch, beech and oak

Comments: biogeochemical site 1981

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17226	surface	0-5	7.5YR 2/0				4.4	3.9	8.0	6.8			17		21
17225	mineral	5-10	7.5YR 5/2	50	44	6.0	4.5	3.9	2.0	1.5			<3.0		11
17224	mineral	10-30	7.5YR 4/4	55	41	4.0	5.3	4.6	3.0	1.6			<3.0		4.2
17223	mineral	10-30	7.5YR 4/4	54	44	3.0	5.3	4.7	3.0	1.7			<3.0		3.5
17222	mineral	30-40	7.5YR 4/4	53	46	1.0	5.4	4.8	2.0	1.0			<3.0		1.6
17221	mineral	30-40	7.5YR 4/4	55	43	1.0	5.6	4.8	2.0	0.90			<3.0		1.7
17220	mineral	40-50	7.5YR 4/4	50	49	<1.0	5.3	4.8	2.0	0.90			<3.0		1.4
17219	mineral	40-50	7.5YR 4/4	63	37	<1.0	5.4	4.9	2.0	0.80			<3.0		1.2
17218	mineral	50-60	10YR 4/4	66	33	<1.0	5.4	4.8	1.0	0.60			<3.0		0.91
17217	mineral	50-60	10YR 4/4	64	33	3.0	5.5	4.8	2.0	0.60			<3.0		0.79

SOIL PROFILE INFORMATION (cont'd.)

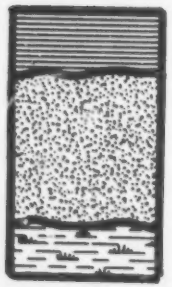
Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17226	surface	1600	180	280	62	11											
17225	mineral	300	45	49	170	3.7											
17224	mineral	180	17	12	56	1.5											
17223	mineral	210	22	7.0	46	1.8											
17222	mineral	150	12	<2.0	27	1.0											
17221	mineral	100	10	<2.0	25	0.83											
17220	mineral	46	7.0	12	21	<0.53											
17219	mineral	51	7.0	12	19	<0.53											
17218	mineral	51	7.0	16	11	<0.50											
17217	mineral	56	7.0	23	11	0.50											

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Plastic Lake, #1, Dorset

Location Code: 3001129

UTM: 17T 670950 5005250

Landform: shallow till

Slope: level

Date: 81/06/03

Vegetation: hemlock

Comments: faint, discontinuous bleached horizon. Mottle at 60-70 cm depth 10YR 5/6. Biogeochemical site 1981.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17236	surface	0-20	7.5YR 2/0				4.0	3.3	24	11			57		17
17235	surface	0-20	7.5YR 2/0				4.7	3.8	28	13			64		15
17234	mineral	20-30	7.5YR 3/4	49	44	7.0	4.7	4.2	4.0	2.0			<3.0		20
17233	mineral	20-30	7.5YR 3/4	57	36	7.0	4.9	4.3	5.0	2.8			<3.0		19
17232	mineral	30-45	7.5YR 3/4				5.1	4.5	5.0	3.1			<3.0		9.6
17231	mineral	30-45	7.5YR 3/4	55	40	5.0	5.0	4.5	5.0	3.3			<3.0		8.6
17230	mineral	45-60	10YR 3/4	45	50	5.0	5.0	4.5	3.0	2.3			<3.0		7.3
17229	mineral	45-60	10YR 3/4	43	53	4.0	5.0	4.5	3.0	1.8			<3.0		6.9
17228	mineral	60-70	10YR 6/1	49	50	1.0	5.4	4.9	1.0	0.50			<3.0		1.2
17227	mineral	60-70	10YR 6/1	36	63	2.0	5.5	4.9	1.0	0.70			<3.0		1.5

SOIL PROFILE INFORMATION (cont'd.)

Site: Plastic Lake, #1, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17236	surface	2600	180	280	140	17	0.16	0.18	0.0081	0.45	0.20	0.010		41	9.9	10	56
17235	surface	2700	230	450	38	17	0.23	0.19	0.11	0.57	0.28	0.14		54	13	10	50
17234	mineral	110	11	190	210	3.2	0.62	0.63	0.00080	1.8	1.1	0.0018		28	6.0	2.4	3.6
17233	mineral	130	22	54	210	3.0	0.86	0.89	0.00060	2.4	1.5	0.0023		28	6.0	3.4	4.8
17232	mineral	90	20	40	100	2.0	0.96	0.97	0.0028	2.6	1.7	0.0048		31	6.9	4.4	4.8
17231	mineral	66	15	35	78	1.5	0.91	1.0	0.0023	2.6	1.8	0.0039		34	9.4	5.1	3.7
17230	mineral	66	15	30	78	1.5	0.46	0.50	0.00090	1.5	1.1	0.0016		35	8.7	7.2	<3.0
17229	mineral	61	12	26	66	1.0	0.36	0.49	0.00040	1.2	0.95	0.0012		26	7.7	6.6	<3.0
17228	mineral	36	7.0	2.0	19	<0.50	0.071	0.18	0.00010	1.3	0.53	0.00010		19	12	6.6	<3.0
17227	mineral	22	5.0	2.0	17	<0.50	0.057	0.20	0.00010	1.2	0.54	0.00010		15	11	6.9	<3.0

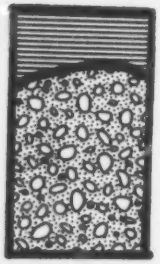
SOIL PROFILE INFORMATION

Horizon / Depth (cm)

surface 0

10

mineral



35

Site: Plastic Lake, #2, Dorset

Location Code: 3001130

UTM: 17T 670950 5005250

Landform: shallow till and rock ridges

Slope: gently sloping

Date: 81/06/03

Vegetation: hemlock

Comments: biogeochemical site 1981 lysimeter pit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17240	surface	0-10	7.5YR 2/0				4.7	3.7	22						5.7
17239	surface	0-10	7.5YR 2/0				4.7	3.9	9.0						4.8
17238	mineral	10-35	7.5YR 3/4				5.2	4.4	5.0						6.0
17237	mineral	10-35	7.5YR 3/4				5.2	4.3	5.0						6.0

SOIL PROFILE INFORMATION (cont'd.)

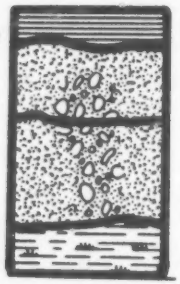
Site: Plastic Lake, #2, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17240	surface	1700	280	340	44	12											
17239	surface	2000	220	300	52	13											
17238	mineral	130	21	27	50	1.5											
17237	mineral	150	20	36	59	1.6											

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Plastic Lake, #3, Dorset

Location Code: 3001163

UTM: 17T 670950 5005250

Landform: shallow till

Slope: level

Date: 81/06/09

Vegetation: maple

Comments: mottle colour at the 65-70 cm, (7.5YR 4/4) depth to bedrock 70 cm, biogeochemical site 1981 lysimeter site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17271	surface	0-10	7.5YR 2/0	37	35	49	4.6	4.1	10	10			12		33
17270	surface	0-10	7.5YR 2/0	33	46	22	5.4	4.4	9.0	8.8			17		29
17269	mineral	10-30	7.5YR 3/2	32	63	5.0	5.2	4.5	3.0	2.2			5.0		8.7
17268	mineral	10-30	7.5YR 3/2	27	63	9.0	5.2	4.5	3.0	2.7			7.0		6.9
17267	mineral	30-45	7.5YR 3/2	38	56	6.0	5.2	4.6	3.0	2.1			<3.0		5.6
17266	mineral	30-45	7.5YR 3/2	33	61	6.0	5.3	4.7	3.0	2.0			<3.0		5.0
17265	mineral	45-65	10YR 4/4	55	38	6.0	5.4	4.8	2.0	1.5			<3.0		4.7
17264	mineral	45-65	10YR 4/4	50	46	4.0	5.4	4.7	2.0	1.1			<3.0		3.4
17263	mineral	65-70	10YR 4/4	70	27	3.0	5.4	4.7	1.0	0.30			<3.0		1.6
17262	mineral	65-70	10YR 4/4	61	36	3.0	5.2	4.3	1.0	0.50			<3.0		1.6

SOIL PROFILE INFORMATION (cont'd.)

Site: Plastic Lake, #3, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17271	surface	1700	220	540	180	13	0.45	0.36	0.065	1.1	0.54	0.091		83	11	11	56
17270	surface	1000	140	300	140	8.2	0.34	0.27	0.076	1.1	0.51	0.13		70	7.7	11	51
17269	mineral	130	16	62	74	1.7	0.83	0.56	0.0089	1.9	0.90	0.021		92	9.2	13	7.6
17268	mineral	150	16	54	68	1.7	0.49	0.42	0.0065	1.8	0.97	0.019		97	11	16	7.0
17267	mineral	120	11	36	51	1.3	0.46	0.51	0.0026	1.6	1.0	0.0083		81	13	18	4.3
17266	mineral	120	16	41	47	1.3	0.48	0.54	0.0025	1.5	1.0	0.0074		76	12	17	5.2
17265	mineral	91	20	19	38	1.1	0.28	0.33	0.0012	1.3	0.86	0.0035		50	9.9	14	<3.0
17264	mineral	70	18	24	32	0.88	0.27	0.36	0.00040	1.2	0.83	0.0023		48	11	13	<3.0
17263	mineral	40	20	11	17	0.56	0.12	0.23	<0.00010	0.86	0.43	0.00020		27	11	10	<3.0
17262	mineral	20	9.0	11	15	<0.50	0.12	0.17	<0.00010	0.89	0.44	0.00050		28	13	13	<3.0

SOIL PROFILE INFORMATION

Horizon

surface

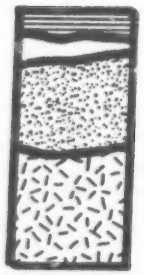
mineral

mineral

mineral

Depth (cm)

0
5
6
30
50
80



Site: Blue Chalk Lake, Dorset

Location Code: 3001168

UTM: 17T 562200 5006650

Landform: shallow till

Slope: level

Date: 81/06/24

Vegetation: birch

Comments: biogeochemical site 1981 lysimeter site, bleached horizon at 5-6 cm - organic contamination when sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17385	surface	0-5	10YR 2/1	60	22	18	4.3	4.0	9.0	12			23		11
17383	surface	0-5	10YR 2/1	62	21	17	4.5	4.0	5.0	3.1			4.0		7.3
17386	mineral	5-6	10YR 6/1	70	25	5.0	4.4	3.5	4.0	0.90			<3.0		5.9
17384	mineral	6-30	10YR 3/4	70	23	6.0	5.6	4.9	3.0	1.4			<3.0		0.70
17382	mineral	6-30	10YR 3/4	78	18	5.0	5.5	4.8	6.0	0.80			<3.0		1.5
17381	mineral	30-50	10YR 4/4	69	23	8.0	6.0	5.4	1.0	0.60			<3.0		0.20
17380	mineral	30-50	10YR 4/4	76	16	7.0	5.9	5.2	1.0	0.60			<3.0		0.33
17379	mineral	50-80	2.5Y 4/2	73	20	7.0	6.5	5.8	1.0	0.30			<3.0		0.18
17378	mineral	50-80	2.5Y 4/2	77	15	8.0	6.4	5.7	1.0	0.30			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17385	surface	3200	340	480	13	20											
17383	surface	1300	140	210	30	8.4											
17386	mineral	350	42	63	80	3.0											
17384	mineral	250	21	28	13	1.6											
17382	mineral	110	16	24	30	1.0											
17381	mineral	250	11	24	7.0	1.5							<1.0				
17380	mineral	180	11	24	4.0	1.1							<1.0				
17379	mineral	280	9.0	24		1.5							<1.0				
17378	mineral	200	7.0	24		1.1							<1.0				

SOIL PROFILE INFORMATION

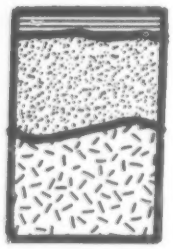
Horizon

surface

mineral

mineral

Depth (cm)



0
10
40
60

Site: Blue Chalk Lake, Dorset

Location Code: 3001170

UTM: 17T 662200 5006650

Landform: shallow till and rock ridges

Slope: gentle slope

Date: 81/06/24

Vegetation: beech

Comments: biogeochemical site
precipitation station 10

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17395	surface	0-10	10YR 2/1	72	17	11	3.8	3.2	12	13			68		18
17394	surface	0-10	10YR 2/1				3.8	3.2	20	11			46		20
17329	mineral	10-25	10YR 5/6	65	28	7.0	5.4	4.5	5.0	2.7			<3.0		8.3
17328	mineral	10-25	10YR 5/6	69	25	6.0	5.7	4.7	4.0	2.6			<3.0		4.1
17327	mineral	25-40	10YR 4/6	79	18	3.0	5.2	4.7	3.0	1.4			<3.0		4.5
17326	mineral	25-40	10YR 4/6	75	21	3.0	5.2	4.6	3.0	1.6			<3.0		4.8
17325	mineral	40-60		57	39	4.0	5.2	4.8	1.0	0.80			<3.0		2.6
17324	mineral	40-60		71	26	3.0	5.5	4.8	1.0	0.70			<3.0		2.3

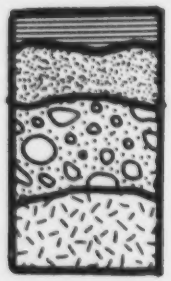
SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17395	surface	1100	160	420	130	9.3	0.19	0.12	0.0083	0.56	0.13	0.010		52	9.6	8.7	75
17394	surface	1100	170	360	150	9.4	0.33	0.18	0.00070	0.83	0.21	0.0093		56	9.1	7.3	62
17329	mineral	150	11	36	70	1.6	0.89	0.76	0.0051	1.5	1.3	0.015		56	4.4	6.4	<3.0
17328	mineral	140	16	71	59	1.6	0.77	0.76	0.0047	1.4	1.2	0.013		60	3.0	6.3	<3.0
17327	mineral	70	5.0	11	39	0.80	0.22	0.44	0.0013	0.79	0.91	0.0042		49	5.4	9.3	<3.0
17326	mineral	50	7.0	11	45	0.78	0.24	0.37	0.0021	0.83	0.90	0.0063		52	5.9	9.7	<3.0
17325	mineral	60	5.0	6.0	20	0.55	0.11	0.22	0.00080	0.42	0.44	0.0039		28	5.9	9.2	<3.0
17324	mineral	30	5.0	15	26	<0.50	0.12	0.24	0.00080	0.42	0.46	0.0030		31	5.9	9.6	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Plastic Lake, Dorset

Location Code: 3001171

UTM: 17T 670950 5005250

Landform: shallow till

Slope: nearly level

Date: 81/06/24

Vegetation: white pine

Comments: faint, discontinuous bleached horizon, charcoal present in upper 10 cm biogeochemical site, lysimeter site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17403	surface	0-10	10 YR 2/1				4.2	3.5	19	8.4			50		10
17402	surface	0-10	10 YR 2/1	44	30	27	4.0	3.2	13	12			47		25
17401	mineral	10-20	10 YR 6/6	54	37	9.0	4.8	4.5	4.0	2.4			<3.0		7.9
17400	mineral	10-20	10 YR 6/6	52	39	8.0	4.9	4.5	5.0	2.9			<3.0		7.2
17399	mineral	20-30	10 YR 4/6	50	41	9.0	4.8	4.4	5.0	3.4			<3.0		7.6
17398	mineral	20-30	10 YR 4/6	56	34	9.0	4.9	4.5	6.0	2.5			<3.0		8.2
17397	mineral	30-60	10 YR 5/8	71	22	7.0	4.8	4.5	4.0	1.8			<3.0		4.7
17396	mineral	30-60	10 YR 5/8	71	22	6.0	4.8	4.5	3.0	1.7			<3.0		4.8

SOIL PROFILE INFORMATION (cont'd.)

Site: Plastic Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17403	surface	1400	400	620	130	13	0.30	0.14	0.027	0.91	0.20	0.032		57	14	10	85
17402	surface	1200	150	360	310	11	0.34	0.34	0.020	0.85	0.40	0.023		55	10	10	89
17401	mineral	20	11	71	88	1.2	0.54	1.1	0.0023	1.8	1.6	0.0061		44	7.6	5.9	3.1
17400	mineral	20	11	63	74	1.1	0.43	0.90	0.0024	1.6	1.6	0.0070		43	8.1	4.4	<3.0
17399	mineral	30	11	55	86	1.2	0.58	1.1	0.0016	1.4	1.6	0.0045		39	9.6	5.4	<3.0
17398	mineral	30	16	51	100	1.4	0.46	0.93	0.0013	1.3	1.6	0.0045		39	11	14	<3.0
17397	mineral	20	7.0	24	70	0.91	0.54	1.0	0.00030	1.2	1.4	0.0013		28	12	7.3	<3.0
17396	mineral	40	7.0	27	68	1.0	0.49	1.1	0.00040	1.2	1.6	0.00090		27	11	7.5	<3.0

SOIL PROFILE INFORMATION

Site: Balsam Lake Provincial Park

Date: 81/06/16

Location Code: 3001173

UTM: 17T 670250 4943350

Vegetation: grasses

Landform: esker

Slope: gentle slope

Comments: sample beside A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18151	Surface	0-15		49	27	25	6.6	6.0	2.0	1.5			<3.0		0.096

SOIL PROFILE INFORMATION (cont'd.)

Site: Balsam Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18151	Surface	980	61	38		5.5	0.13	0.094	0.019	0.91	0.18	0.082	<1.0	65	9.0	6.2	6.3

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface mineral 0
5
mineral 20
30
mineral 60

Site: Balsam Lake Provincial Park

Location Code: 3001174

UTM: 17T 670250 4943350

Landform: sand plain

Slope: very gentle slopes

Date: 81/06/16

Vegetation: maple, birch, pine

Comments: depth to faint mottling 30 cm, strongly effervescent at depth 30-60 cm, weathered limestone at 30-60 cm depth, near A.P.I.O.S. collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18150	surface	0-5	5YR 3/1	59	21	19	7.1	6.6	3.0	2.6			10		0.11
18149	surface	0-5	5YR 3/1	55	24	22	6.5	6.0	2.0	3.1			4.0		<0.080
18148	mineral	5-20	10YR 3/2	64	19	18	6.8	6.3	2.0	1.7			<3.0		<0.080
18147	mineral	5-20	10YR 3/2	58	24	18	7.0	6.4	2.0	1.8			<3.0		0.10
18146	mineral	20-30	10YR 4/4	65	24	12	8.3	7.6	1.0	0.40			<3.0		0.088
18145	mineral	20-30	10YR 4/4	67	20	13	8.2	7.6	<0.50	0.40			<3.0		0.090
18144	mineral	30-60	2.5Y 5/2	67	23	11	8.5	7.8	1.0	0.20			<3.0		<0.080
18143	mineral	30-60	2.5Y 5/2	59	32	9.0	8.5	7.8	1.0	0.20			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd)

Site: Balsam Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18150	surface	2900	140	150		16	0.13	0.078	0.020	0.60	0.11	0.024	<1.0	44	6.9	3.5	9.6
18149	surface	2400	140	110		14	0.15	0.092	0.017	0.56	0.11	0.022	<1.0	40	6.4	2.6	9.6
18148	mineral	1600	110	40		9.2	0.21	0.16	0.028	0.99	0.18	0.047	<1.0	51	10	6.6	3.1
18147	mineral	1600	110	38		9.2	0.21	0.14	0.025	0.94	0.16	0.041	<1.0	50	10	5.7	6.1
18146	mineral	1100	41	23		5.9	0.060	0.041	0.0048	0.62	0.088	0.031	3.0	29	9.9	5.3	3.1
18145	mineral	870	50	25		4.8	0.064	0.043	0.0074	0.79	0.11	0.040	3.0	29	9.9	5.3	4.1
18144	mineral	1000	34	17		5.3	0.014	0.021	0.0029	0.36	0.044	0.023	15	23	11	4.8	<3.0
18143	mineral	820	41	23		4.5	0.011	0.017	0.0022	0.36	0.047	0.020	13	25	11	4.1	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

Site: Uxbridge

Location Code: 3001175

UTM: 17T 643000 4896800

Landform: sand plain/moraine

Slope: nearly level

Date: 81/06/16

Vegetation: grasses

Comments: iron concretions at 30-45 cm depth, near A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18142	surface	0-25	10YR 3/2	83	6.0	11	7.9	7.4	2.0	1.9			<3.0		0.090
18141	surface	0-25	10YR 3/2	83	6.0	11	7.8	7.3	4.0	2.0			<3.0		<0.080
18140	mineral	25-30	7.5YR 5/8	86	6.0	9.0	8.1	7.5	1.0	0.70			<3.0		<0.080
18139	mineral	25-30	7.5YR 5/8	87	6.0	7.0	8.1	7.5	1.0	0.60			<3.0		<0.080
18138	mineral	30-45	10YR 5/4	90	4.0	6.0	8.5	7.6	<0.50	0.20			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Uxbridge

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18142	surface	2100	31	11		11	0.20	0.15	0.0096	0.86	0.17	0.018	3.0	36	6.4	<2.0	<3.0
18141	surface	2300	31	17		12	0.20	0.18	0.014	0.89	0.18	0.020	3.0	40	6.9	<2.0	8.5
18140	mineral	1100	16	11		5.6	0.20	0.14	0.0056	0.94	0.15	0.024	5.0	27	4.9	<2.0	<3.0
18139	mineral	930	16	6.0		4.8	0.17	0.12	0.0055	0.86	0.14	0.025	5.0	25	5.9	2.1	<3.0
18138	mineral	440	7.0	11		2.3	0.038	0.033	0.0022	0.44	0.038	0.0075	19	18	4.9	<2.0	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Site: Raven Lake

Location Code: 3001176

UTM: 17T 665850 4941750

Landform: limestone plain

Slope: level

Date: 81/06/16

Parent Material: sandy till

Vegetation: maple, grasses

Comments: vicinity of A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18157	surface	0-25	10YR 3/2	41	37	21	7.6	7.1	3.0	2.9			19		0.17
18156	surface	0-25	10YR 3/2	48	33	20	7.7	7.1	3.0	2.1			20		0.096
18155	mineral	25-45	10YR 4/4	51	34	16	7.7	7.1	1.0	0.50			<3.0		<0.080
18154	mineral	25-45	10YR 4/4	49	35	16	7.9	7.3	1.0	0.70			4.0		<0.080
18153	mineral	45-60	10YR 5/3	60	31	9.0	8.3	7.6	<0.50	0.30			<3.0		<0.080
18152	mineral	45-60	10YR 5/3	72	23	6.0	8.4	7.6	<0.50	0.30			<3.0		0.21

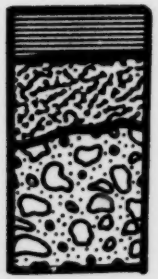
SOIL PROFILE INFORMATION (cont'd.)

Site: Raven Lake

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18157	surface	2800	45	130		15	0.13	0.075	0.018	0.78	0.12	0.033	2.0	52	6.8	4.3	9.7
18156	surface	2300	47	130		12	0.13	0.074	0.019	0.76	0.11	0.034	1.0	48	6.7	4.7	3.8
18155	mineral	1300	18	38		6.8	0.11	0.088	0.0048	0.65	0.12	0.028	2.0	31	6.7	6.1	<3.0
18154	mineral	1600	18	38		8.2	0.12	0.099	0.0048	0.67	0.12	0.026	2.0	31	6.1	6.0	5.0
18153	mineral	870	7.0	17		4.5	0.018	0.021	0.0014	0.26	0.035	0.014	28	10	6.1	<2.0	<3.0
18152	mineral	760	7.0	19		3.9	0.018	0.020	0.0016	0.27	0.035	0.014	28	13	6.5	<2.0	6.3

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Devil's Glen Provincial Park

Location Code: 1001186

UTM: 17T 563050 4912000

Landform: spillway

Slope: gentle slopes

Date: 81/06/23

Vegetation: cedar, maple, pine, ferns

Comments: slightly stoney (shale)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18205	surface	0-15	10YR 3/3	27	48	25	6.1	5.5	3.0	2.5					0.55
18204	surface	0-15	10YR 3/3	16	56	25	6.0	5.4	3.0	2.6					0.51
18203	mineral	15-40	10YR 5/8	26	55	19	6.1	5.3	1.0	0.50					0.30
18202	mineral	15-40	10YR 5/8	30	54	16	6.0	5.2	1.0	0.50					0.26
18201	mineral	40-60	10YR 4/4	24	53	24	6.0	5.1	<0.50	0.40					0.19
18200	mineral	40-60	10YR 4/4	25	53	22	6.0	5.2	<0.50	0.30					0.18

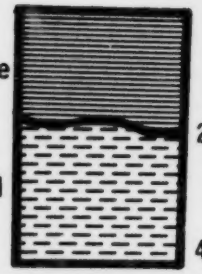
SOIL PROFILE INFORMATION (cont'd.)

Site: Devil's Glen Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18205	surface	1300	180	140		8.3	0.22	0.18	0.0083	0.89	0.25	0.013	<1.0	33	10	8.1	11
18204	surface	1500	180	130	<4.5	9.3	0.20	0.18	0.0072	0.94	0.26	0.013	<1.0	35	11	7.5	8.1
18203	mineral	470	53	56	<4.5	2.9	0.14	0.15	0.0018	1.0	0.31	0.0099	<1.0	24	11	8.9	<3.0
18202	mineral	480	58	53	<4.5	3.0	0.17	0.17	0.0034	0.93	0.24	0.018	<1.0	34	35	14	<3.0
18201	mineral	520	70	47	<4.5	3.3	0.11	0.095	0.0031	0.83	0.14	0.025	<1.0	28	17	10	<3.0
18200	mineral	550	82	43	<4.5	3.5	0.11	0.071	0.0027	0.92	0.14	0.026	<1.0	26	16	9.4	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Carruther's Memorial Conservation Area Date: 81/06/23

Location Code: 3001190

UTM: 17T 572450 4906900 Vegetation: maple, beech, cedar, grass

Landform: clay plain/lacustrine sediment Comments: very compact horizons

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18189	surface	0-22	10YR 3/1	6.0	61	34	7.6	7.2	4.0	4.2			5.0		<0.080
18188	surface	0-22	10YR 3/1	5.0	72	24	7.6	7.2	3.0	4.2			<3.0		<0.080
18187	mineral	22-40	10YR 4/3	7.0	50	42	7.8	7.0	1.0	1.1			<3.0		<0.080
18186	mineral	22-40	10YR 4/3	8.0	46	47	7.7	7.0	1.0	1.1			<3.0		<0.080

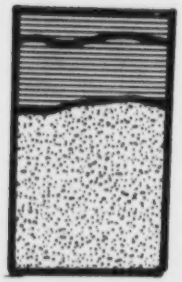
SOIL PROFILE INFORMATION (cont'd.)

Site: Carruther's Memorial Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18189	surface	3700	300	120		21	0.18	0.11	0.048	1.1	0.11	0.069	2.0	240	22	16	9.4
18188	surface	4400	270	96		24	0.18	0.083	0.031	1.1	0.11	0.068	2.0	230	23	16	9.4
18187	mineral	2200	200	60		13	0.16	0.080	0.0041	1.1	0.097	0.022	2.0	510	18	17	7.4
18186	mineral	2400	210	64		14	0.16	0.082	0.0038	1.0	0.10	0.021	2.0	550	18	17	5.3

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Blue Chalk Lake, Dorset

Location Code: 3001192

UTM: 17T 662200 5006500

Landform: shallow till and rock ridges

Slope: nearly level

Date: 81/07/06

Vegetation: soft maple

Comments: depth to gneiss bedrock 70 cm
biogeochemical site 1981, 0-5 cm
depth not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18215	surface	5-15	10YR 3/2	75	14	11	5.3	4.5	2.0	1.2					6.7
18214	surface	5-15	10YR 3/2	76	21	9.0	5.4	4.6	2.0	1.1					5.8
18213	mineral	15-40	10YR 5/6	77	18	5.0	5.5	4.6	2.0	0.60					4.9
18212	mineral	15-40	10YR 5/6	75	20	5.0	5.5	4.7	2.0	0.80					3.5
18211	mineral	40-70	10YR 5/6	70	21	9.0	5.3	4.6	1.0	0.50					4.2
18210	mineral	40-70	10YR 5/6	68	22	10	5.3	4.7	1.0	0.60					4.2

SOIL PROFILE INFORMATION (cont'd.)

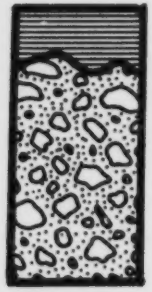
Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18215	surface	110	9.0	24	53	1.2	0.23	0.36	0.0013	0.98	0.68	0.0028		34	6.7	7.6	<3.0
18214	surface	120	6.0	24	36	1.1	0.20	0.32	0.00080	0.96	0.66	0.0014		32	7.6	8.6	<3.0
18213	mineral	85	3.0	10	27	0.75	0.20	0.29	0.00050	0.95	0.64	0.0021		28	9.0	9.2	<3.0
18212	mineral	85	6.0	10	27	0.77	0.17	0.28	0.00050	0.93	0.65	0.0014		24	8.0	7.5	<3.0
18211	mineral	32	1.0	6.0	20	<0.50	0.19	0.26	0.00040	0.91	0.57	0.0005		27	8.8	8.3	<3.0
18210	mineral	21	1.0	5.0	24	<0.50	0.14	0.23	0.00040	0.89	0.58	0.0012		26	9.3	7.4	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Blue Chalk Lake, Dorset

Location Code: 3001193

UTM: 17T 662200 5006500

Landform: shallow till and rock ridges

Slope: nearly level

Date: 81/07/06

Vegetation: maple, yellow birch

Comments: depth to bedrock 50 cm. exceedingly stoney, vegetation site, biogeochemical site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18218	surface	0-10	10YR 3/2	59	23	18	5.1	4.3	4.0	3.0					7.2
18217	mineral	10-30	5YR 4/3	63	25	12	5.1	4.3	3.0	1.3					11
18216	mineral	30-55	5YR 4/3	68	17	14	5.1	4.4	3.0	1.2					8.0

SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18218	surface	900	92	120	88	6.4											
18217	mineral	120	5.0	24	66	1.4											
18216	mineral	74	3.0	15	58	1.0											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Site: Blue Chalk Lake, Dorset

Location Code: 3001194

UTM: 17T 662200 5006500

Landform: shallow till and rock ridges

Slope: gentle slopes

Date: 81/07/06

Vegetation: soft maple

Comments: slightly stoney, biogeochemical site, surface 0-5 cm not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18225	mineral	5-10	2.5YR 5/4	52	30	17	4.3	3.6	3.0	1.8					24
18224	mineral	10-22	7.5YR 4/6	46	36	18	5.2	4.5	5.0	2.2					6.2
18223	mineral	10-22	7.5YR 4/6	51	31	19	5.1	4.4	5.0	2.4					9.3
18222	mineral	22-45	10YR 5/6	46	42	13	5.1	4.6	2.0	1.3					4.8
18221	mineral	22-45	10YR 5/6	53	38	9.0	5.1	4.4	2.0	1.1					5.3
18220	mineral	45-65	10YR 4/6	48	43	9.0	5.4	4.6	2.0	1.1					4.1
18219	mineral	45-65	10YR 4/6	60	31	9.0	5.2	4.5	2.0	0.80					6.1

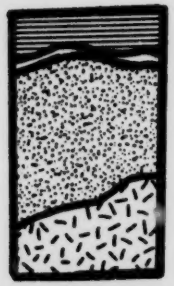
SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18225	mineral	170	22	73	170	3.0	0.76	0.23	0.0021	1.3	0.36	0.0045		27	3.4	2.9	<3.0
18224	mineral	91	10	42	37	1.0	0.96	1.4	0.0013	2.2	1.7	0.0036		56	5.0	6.0	<3.0
18223	mineral	110	10	33	67	1.4	0.60	1.1	0.00080	1.5	1.4	0.0045		67	6.0	10	<3.0
18222	mineral	32	1.0	12	38	0.58	0.21	0.58	0.00050	1.2	1.2	0.0035		46	6.4	10	<3.0
18221	mineral	42	1.0	16	35	0.61	0.23	0.63	0.00030	1.1	1.2	0.0034		51	8.9	11	<3.0
18220	mineral	110	1.0	37	38	1.0	0.22	0.57	0.00060	0.87	0.83	0.0033		42	11	10	<3.0
18219	mineral	42	1.0	8.0	42	0.66	0.17	0.46	0.00030	0.73	0.78	0.0024		40	12	11	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Blue Chalk Lake, Dorset

Location Code: 3001195

UTM: 17T 662200 5006500

Landform: shallow till and rock ridges

Slope: nearly level

Date: 81/07/06

Vegetation: hard maple

Comments: slightly stoney in 45-65 cm depth
faint bleached horizon (no sample)
biogeochemical site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18233	surface	0-10	10YR 3/2	57	31	12	4.7	4.0	3.0	2.7					12
18232	surface	0-10	10YR 3/2	53	35	12	4.7	3.9	3.0	2.9					10
18231	mineral	10-20	10YR 3/4	71	24	5.0	5.2	4.4	3.0	2.0					7.7
18230	mineral	10-20	10YR 3/4	66	27	6.0	5.1	4.4	2.0	2.1					6.9
18229	mineral	20-45	10YR 4/4	78	19	3.0	5.2	4.6	2.0	1.0					3.5
18228	mineral	20-45	10YR 4/4	85	12	3.0	5.2	4.6	2.0	0.90					3.2
18227	mineral	45-65	10YR 5/4	67	27	6.0	5.3	4.7	1.0	0.60					2.3
18226	mineral	45-65	10YR 5/4	55	32	13	5.3	4.7	1.0	0.50					2.5

SOIL PROFILE INFORMATION (cont'd.)

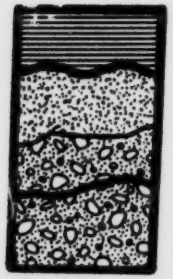
Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18233	surface	370	29	77	140	3.7	0.62	0.19	0.0066	0.75	0.76	0.0045		31	2.4	2.7	9.6
18232	surface	440	34	87	130	4.0	0.40	0.15	0.0035	0.78		0.0055		23	2.1	2.1	5.0
18231	mineral	69	1.0	14	54	0.93	0.37	0.66	0.00050	1.0	1.0	0.0043		44	3.7	8.4	5.9
18230	mineral	85	3.0	18	56	1.1	0.71	0.85	0.0010	1.5	1.2	0.0038		49	4.1	6.1	<3.0
18229	mineral	32	1.0	6.0	27	<0.50	0.20	0.38	0.00060	0.71	0.70	0.0059		27	4.7	7.2	<3.0
18228	mineral	21	1.0	5.0	26	<0.50	0.20	0.32	0.00060	0.71	0.70	0.0055		27	5.2	8.2	<3.0
18227	mineral	21	1.0	5.0	20	<0.50	0.074	0.20	0.00020	0.43	0.39	0.0026		18	6.3	8.8	<3.0
18226	mineral	11	1.0	5.0	22	<0.50	0.083	0.31	0.00020	0.44	0.42	0.0021		18	6.4	8.4	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



surface 0

mineral 12

mineral 30

mineral 40

55

Site: Blue Chalk Lake, Dorset

Location Code: 3001196

UTM: 17T 662200 5006500

Landform: shallow till and rock ridge

Slope: level

Date: 81/07/06

Vegetation: hard maple, red oak

Comments: small stones in 0-30 cm depth exceedingly stoney at 30 and 55 cm. biogeochemical site

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18240	surface	0-12	10YR 2/2	55	30	15	5.3	4.5	3.0	4.1					4.6
18239	surface	0-12	10YR 2/2	58	27	14	5.3	4.6	4.0	3.8					4.4
18238	mineral	12-30	7.5YR 3/4	59	33	8.0	5.3	4.6	4.0	2.2					4.4
18237	mineral	12-30	7.5YR 3/4	63	30	8.0	5.4	4.5	4.0	2.3					5.0
18236	mineral	30-40	10YR 3/3	72	24	5.0	5.4	4.5	2.0	0.80					4.1
18235	mineral	30-40	10YR 3/3	73	23	4.0	5.4	4.6	2.0	1.1					4.0
18234	mineral	40-55	10YR 4/4	81	15	4.0	5.4	4.7	1.0	0.60					2.4

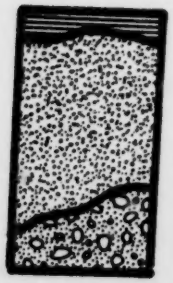
SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18240	surface	960	72	53	40	5.9	0.51	0.24	0.0082	1.2	0.46	0.014		40	2.8	4.9	4.1
18239	surface	910	62	60	27	5.5	0.76	0.34	0.013	1.3	0.55	0.018		46	3.1	4.9	6.0
18238	mineral	300	13	22	51	2.2	0.60	0.76	0.0016	1.3	1.1	0.0059		51	3.8	8.0	<3.0
18237	mineral	240	10	14	58	1.9	0.72	0.88	0.0013	1.3	1.1	0.0062		51	4.2	9.4	<3.0
18236	mineral	53	1.0	6.0	31	0.60	0.14	0.31	<0.00010	0.59	0.66	0.0028		29	4.9	9.7	<3.0
18235	mineral	53	1.0	6.0	38	0.67	0.21	0.37	<0.00020	0.76	0.75	0.0038		40	5.6	12	<3.0
18234	mineral	21	1.0	6.0	22	<0.50	0.12	0.23	<0.00010	1.2	0.30	0.010		28	7.2	15	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



surface 0
5
mineral
30
mineral 40
mineral
55

Site: Blue Chalk Lake, Dorset

Location Code: 3001197

UTM: 17T 662200 5006500

Landform: shallow till rock ridges

Slope: gentle slope

Date: 81/07/06

Vegetation: red oak, beech, maple

Comments: faint, discontinuous bleached horizon, biogeochemical site, surface 0-5 cm not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18246	mineral	5-30	7.5YR 3/4	68	26	6.0	5.2	4.4	3.0	1.8					9.4
18245	mineral	5-30	7.5YR 3/4	69	26	5.0	5.1	4.5	3.0	2.0					5.8
18244	mineral	30-40	10YR 4/4	72	21	6.0	5.1	4.5	2.0	1.0					4.0
18243	mineral	30-40	10YR 4/4	76	21	3.0	5.1	4.6	2.0	1.0					3.8
18242	mineral	40-55	10YR 4/6	70	22	8.0	5.2	4.6	1.0	0.80					3.1
18241	mineral	40-55	10YR 4/6	73	22	5.0	5.3	4.6	1.0	0.70					3.2

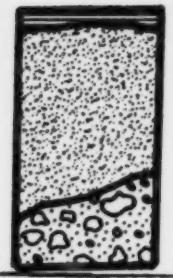
SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Chalk Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18246	mineral	32	3.0	30	60	0.86	0.44	0.63	0.0016	1.6	1.2	0.0057		57	3.1	4.9	<3.0
18245	mineral	32	3.0	26	47	0.72	0.42	0.60	0.0010	1.6	1.2	0.0040		63	5.1	7.4	<3.0
18244	mineral	21	1.0	14	31	<0.50	0.21	0.33	0.00030	0.88	0.77	0.0024		39	5.1	7.0	<3.0
18243	mineral	21	1.0	10	27	<0.50	0.14	0.32	<0.00010	0.73	0.72	0.0021		34	5.3	8.1	<3.0
18242	mineral	21	1.0	10	27	<0.50	0.11	0.27	<0.00010	0.61	0.55	0.00090		26	7.2	9.0	<3.0
18241	mineral	21	1.0	14	27	<0.50	0.11	0.27	<0.00010	0.60	0.54	0.0020		27	7.1	7.8	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Plastic Lake, Dorset

Location Code: 3001198

UTM: 17T 670950 5005250

Landform: shallow till and rock ridges

Slope: moderate slopes

Date: 81/07/06

Vegetation: white pine, red oak, maple

Comments: very stoney, surface not sampled, depth to faint mottling 40 cm. biogeochemical site 1981

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18251	mineral	5-15	10YR 3/4	35	53	12	4.9	4.3	2.0	2.8					16
18250	mineral	5-15	10YR 3/4	41	51	9.0	5.0	4.4	3.0	2.4					9.6
18249	mineral	15-30	10YR 3/4	39	53	9.0	5.0	4.4	3.0	2.3					8.9
18248	mineral	15-30	10YR 3/4	40	52	8.0	5.0	4.4	4.0	2.5					9.6
18247	mineral	30-45	10YR 2/2	37	54	9.0	5.1	4.4	3.0	2.6					9.3

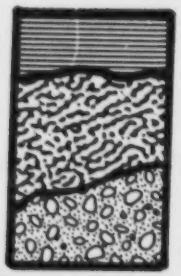
SOIL PROFILE INFORMATION (cont'd.)

Site: Plastic Lake, Dorset

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18251	mineral	74	6.0	39	100	1.5	1.5	0.71	0.0053	2.7	1.2	0.0095		57	6.6	5.5	<3.0
18250	mineral	53	6.0	51	63	1.1	1.0	0.54	0.0033	2.6	1.0	0.010		54	7.2	5.6	<3.0
18249	mineral	74	6.0	32	60	1.1	1.5	0.68	0.0013	2.8	1.2	0.0050		59	7.0	6.6	<3.0
18248	mineral	85	6.0	35	63	1.2	1.9	0.85	0.0016	2.8	1.2	0.0057		63	9.1	6.2	6.1
18247	mineral	120	6.0	30	67	1.4	0.79	0.66	0.00020	1.5	0.98	0.0014		48	9.6	6.8	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Kawartha Conservation Area

Location Code: 3001211

UTM: 17T 677350 4919200

Landform: till plain

Slope: level

Date: 81/07/23

Vegetation: white pine, cedars, ferns, grasses

Comments: limestone rock fragments and gravel in 35-47 cm. depth.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18296	surface	0-10	7.5YR 3/2	24	44	32	7.5	7.1	3.0	2.1			24		<0.080
18295	surface	0-10	7.5YR 3/2	29	39	32	7.7	7.3	4.0	2.0			24		<0.080
18294	mineral	10-35	5YR 3/4	17	51	32	7.7	7.2	2.0	1.2			15		<0.080
18293	mineral	10-35	5YR 3/4	17	52	31	7.6	7.1	2.0	1.5			12		0.280
18292	mineral	35-47	10YR 6/4	49	41	10	8.1	7.4	1.0	0.90			5.0		<0.080

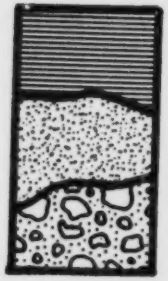
SOIL PROFILE INFORMATION (cont'd.)

Site: Kawartha Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18296	surface	3100	83	97		16	0.096	0.052	0.023	1.0	0.13	0.056	13	51	6.5	8.5	14
18295	surface	2700	76	92		14	0.086	0.052	0.022	1.2	0.13	0.054	15	54	7.5	8.5	12
18294	mineral	2100	91	58		12	0.13	0.066	0.014	1.5	0.22	0.059	1.5	58	7.6	12	9.7
18293	mineral	2200	87	52		12	0.15	0.083	0.020	1.4	0.21	0.060	1.0	58	6.6	9.7	9.3
18292	mineral	1100	52	30		6.0	0.059	0.058	0.0038	0.61	0.086	0.025	31	22	7.5	7.6	4.7

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: The Gut Conservation Area

Location Code: 3001218

UTM: 18T 276750 4961550

Landform: moraine

Slope: nearly level

Date: 81/08/17

Vegetation: birch, fern, grasses

Comments: very stoney at 35-65 cm. depth

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18383	surface	0-20	7.5YR 4/4	63	30	7.0	5.3	4.5	3.0	2.6			12		3.9
18382	surface	0-20	7.5YR 4/4	59	39	2.0	5.5	4.6	3.0	2.0			10		3.2
18381	mineral	20-35	7.5YR 5/6	73	21	6.0	5.9	5.1	2.0	1.3			8.0		0.50
18380	mineral	20-35	7.5YR 5/6	71	27	2.0	6.0	5.2	2.0	1.1			6.0		0.44
18379	mineral	35-65	10YR 6/6	69	26	5.0	6.2	5.4	1.0	0.40			12		0.27
18378	mineral	35-65	10YR 6/6	71	27	2.0	6.1	5.3	1.0	0.40			11		0.16

SOIL PROFILE INFORMATION (cont'd.)

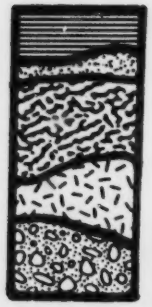
Site: The Gut Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18383	surface	400	41	79	28	2.8	0.32	0.24	0.0075	0.87	0.41	0.014		50	4.8	4.5	11
18382	surface	400	31	67	23	2.7	0.31	0.24	0.0079	0.90	0.42	0.016		42	4.4	4.4	5.2
18381	mineral	490	15	19	5.0	2.7	0.58	0.55	0.00090	1.2	0.70	0.0039	<1.0	37	5.4	5.8	<3.0
18380	mineral	530	21	29	4.0	2.9	0.32	0.27	0.0006	0.98	0.61	0.0047	<1.0	43	6.0	5.8	<3.0
18379	mineral	230	6.0	17	<4.5	1.3	0.086	0.19	0.00010	0.50	0.39	0.0031	<1.0	40	8.6	8.2	<3.0
18378	mineral	200	8.0	15	<4.5	1.1	0.092	0.21	0.00020	0.54	0.42	0.0031	<1.0	41	8.1	9.2	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Ganaraska Forest, Port Hope

Location Code: 3001230

UTM: 17T 711950 4884650

Landform: sand plain

Slope: nearly level

Date: 81/07/27

Vegetation: oak, maple, pine ferns

Comments: some stones at 50+ cm, road cut, old Lake Iroquois shoreline

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18306	surface	0-15	10YR 3/3	59	19	21	6.3	5.7	2.0	1.3			11		0.66
18305	surface	0-15	10YR 3/3	71	13	16	6.0	5.4	2.0	1.2			14		0.96
18307	mineral	15-20	10YR 5/6	69	16	15	5.9	5.2	1.0	0.60			24		0.89
18304	mineral	20-35	10YR 6/6	73	17	10	6.1	5.3	1.0	0.30			17		0.46
18303	mineral	20-35	10YR 6/6	80	12	9.0	6.2	5.4	<0.50	0.30			9.0		0.30
18302	mineral	35-50	10YR 6/6	80	11	9.0	6.4	5.6	<0.50	<0.10			9.0		0.098
18301	mineral	35-50	10YR 6/6	79	7.0	14	6.5	5.6	<0.50	<0.10			9.0		<0.080
18300	mineral	50-70	10YR 5/8	81	8.0	12	7.1	6.4	<0.50	0.20			5.0		<0.080
18299	mineral	50-70	10YR 5/8	81	7.0	11	8.0	7.3	<0.50	0.20			7.0		<0.080
18298	mineral	70-80	10YR 6/4	85	6.0	9.0	8.4	7.6	<0.50	<0.10			<3.0		<0.080
18297	mineral	70-80	10YR 6/4	85	7.0	8.0	8.5	7.6	<0.50	0.20			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Ganaraska Forest, Port Hope

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18306	surface	900	58	26		5.0	0.16	0.16	0.038	0.62	0.18	0.072	<1.0	30	1.7	4.9	6.5
18305	surface	750	53	30	<4.5	4.3	0.19	0.16	0.038	0.62	0.19	0.076	<1.0	26	1.7	4.4	3.9
18307	mineral	680	34	13	<4.5	3.8	0.16	0.17	0.0063	0.74	0.26	0.014	<1.0	22	1.7	3.9	3.2
18304	mineral	330	22	6.0	<4.5	1.9	0.095	0.11	0.0028	0.54	0.18	0.0093	<1.0	18	2.7	4.9	<3.0
18303	mineral	230	17	4.0	<4.5	1.3	0.055	0.082	0.0011	0.45	0.14	0.0021	<1.0	16	2.2	4.9	<3.0
18302	mineral	350	27	10		2.0	0.047	0.040	0.0019	0.42	0.071	0.011	<1.0	12	1.7	4.4	3.9
18301	mineral	260	20	7.0		1.5	0.042	0.043	0.0019	0.37	0.074	0.0089	<1.0	10	1.7	4.4	<3.0
18300	mineral	770	29	14		4.1	0.044	0.036	0.0019	0.52	0.092	0.017	<1.0	15	4.2	5.8	<3.0
18299	mineral	650	10	12		3.4	0.018	0.018	0.0018	0.36	0.047	0.016	11	14	4.3	4.2	<3.0
18298	mineral	460	3.0	10		2.4	0.010	0.011	0.0016	0.27	0.032	0.010	21	11	3.8	3.2	<3.0
18297	mineral	520	1.0	8.0		2.6	0.011	0.014	0.0018	0.30	0.041	0.012	18	13	4.4	3.6	<3.0

SOIL BASELINE ANALYTICAL DATA, 1980-1981

SOUTHEASTERN REGION

SOIL PROFILE INFORMATION

Horizon Depth (cm)

Site: Bon Echo Provincial Park

Location Code: 4001027

UTM: 18T 326950 4973750

Landform: shallow till and rock outcrop

Slope: gentle slope

Date: 80/06/16

Vegetation: pine, oak, maple

Comments: many stones at 30 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9209	surface	0-10	5YR 2.5/2	76	16	9.0	5.2	4.5	2.8	0.89	8.9			270	
9210	surface	0-10	5YR 2.5/2	75	16	9.0	5.2	4.2	2.3	1.1	8.4			310	
9207	mineral	10-40	7.5YR 4/4	75	19	7.0	5.8	4.6	0.80	0.63	7.4			350	
9208	mineral	10-40	7.5YR 4/4	72	22	6.0	5.5	4.6	0.80	0.61	6.6			300	
9205	mineral	40-70	7.5YR 4/4	91	4.0	5.0	5.6	4.6	0.31	0.22	5.1			470	
9206	mineral	40-70	7.5YR 4/4	89	7.0	4.0	5.5	4.9	0.16	0.24	3.6			260	
9203	mineral	70-80	2.5Y 5/6				5.9	4.9	0.090	0.20	3.9			290	
9204	mineral	70-80	2.5Y 5/6	98	1.0	1.0	5.7	4.9	0.13	<0.13	4.4			220	

SOIL PROFILE INFORMATION (cont'd.)

Site: Bon Echo Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9209	surface	410	53	75	59	3.3	0.18	0.14	0.0093	0.78	0.22	0.024		69	16	7.9	14
9210	surface	330	44	85	83	3.0	0.26	0.15	0.0077	0.81	0.19	0.022		59	13	6.8	14
9207	mineral	130	12	32	13	0.94	0.13	0.20	0.0017	0.92	0.36	0.010		71	14	12	<3.0
9208	mineral	67	12	68	17	0.77	0.080	0.17	0.0017	0.77	0.33	0.0060		63	20	12	<3.0
9205	mineral	48	5.0	17	8.0	0.40	0.050	0.080	0.0013	0.48	0.21	0.0060		42	26	9.3	<3.0
9206	mineral	33	5.0	22	13	0.40	0.040	0.080	0.00070	0.32	0.14	0.0030		26	16	7.1	<3.0
9203	mineral	48	5.0	17	<2.3	0.34	0.070	0.040	0.0019	0.31	0.11	0.0060		24	18	6.8	<3.0
9204	mineral	38	5.0	17	<2.3	0.28	0.030	0.050	0.0019	0.27	0.080	0.0060		24	30	5.9	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0

mineral | 25

45

Site: Gould Lake Conservation Area

Location Code: 4001028

UTM: 18T 373450 1923050

Landform: limestone plain

Slope: level

Date: 80/06/17

Vegetation: grass

Comments: bedrock at 45 cm
limestone fragments throughout pit

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9213	surface	0-25	5YR 3/2	41	34	26	6.9	6.7	4.9	4.4	13			1100	
9214	surface	0-25	5YR 3/2	41	29	30	7.1	6.6	4.1	3.3	8.8			1100	
9211	mineral	25-45	5YR 4/3	35	32	34	7.2	6.5	2.0	1.5	5.7			900	
9212	mineral	25-45	5YR 4/3	32	32	36	7.1	6.8	1.5	1.4	5.9			760	

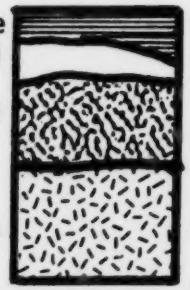
SOIL PROFILE INFORMATION (cont'd.)

Site: Gould Lake Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9213	surface	3600	210	260		20	0.20	0.12	0.10	1.8	0.25	0.15	<1.0	100	28	22	34
9214	surface	3200	140	180		17	0.23	0.13	0.049	1.6	0.23	0.12	<1.0	86	27	20	20
9211	mineral	2000	120	120		11	0.24	0.12	0.030	2.1	0.27	0.16	<1.0	73	33	27	22
9212	mineral	2000	98	86		11	0.19	0.090	0.019	2.1	0.26	0.19	<1.0	73	37	31	20

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Gould Lake Conservation Area

Location Code: 4001029

UTM: 18T 374000 4924400

Landform: shallow till and rock ridge

Slope: gently sloping

Date: 80/06/17

Vegetation: oak, maple, pine, spruce

Comments: bleached horizon at 3-5 cm very thin and discontinuous

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9223	surface	0-3	7.5YR 2.5/0				4.7	4.1	16	4.2				740	
9224	surface	0-3	7.5YR 2.5/0				4.5	3.9	17	5.2	41			630	
9225	mineral	3-5	7.5YR 6/2	62	24	14	4.6	3.7	2.2	0.71	6.4			250	
9221	mineral	5-30	10YR 4/4	59	32	9.0	5.5	4.2	0.68	0.36	3.2			390	
9222	mineral	5-30	10YR 4/4	58	34	8.0	5.0	4.1	0.84	0.49	3.3			295	
9219	mineral	30-40	10YR 4/4	56	32	12	5.6	4.4	0.48	0.30	3.7			520	
9220	mineral	30-40	10YR 4/4	58	32	10	5.4	4.3	0.73	0.32	4.5			320	
9217	mineral	40-70	10YR 5/3	16	51	33	5.8	4.9	0.35	0.28	4.1			820	
9218	mineral	40-70	10YR 5/3	16	52	33	5.6	4.8	0.32	0.35	5.2			770	
9215	mineral	70-80	10YR 5/3	24	39	36	6.0	5.2	0.38	0.33	4.4			1000	
9216	mineral	70-80	10YR 5/3	24	41	35	5.8	5.0	0.52	0.36	5.1			940	

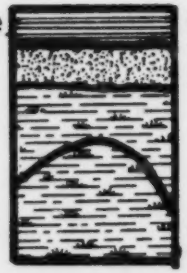
SOIL PROFILE INFORMATION (cont'd.)

Site: Gould Lake Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9223	surface	2600	560	200	43	18	0.20	0.12	0.012	0.91	0.13	0.029		66	31	17	41
9224	surface	2400	490	160	77	17	0.20	0.13	0.0060	0.89	0.14	0.019		65	27	16	42
9225	mineral	240	41	42	390	5.5	0.25	0.12	0.0018	0.88	0.13	0.013		45	22	9.7	6.5
9221	mineral	240	110	27	170	3.6	0.17	0.11	0.0017	1.0	0.20	0.0080		55	34	15	3.7
9222	mineral	78	56	27	180	2.7	0.15	0.12	0.00090	0.95	0.21	0.0060		44	24	12	3.1
9219	mineral	180	86	37	80	2.5	0.13	0.12	0.0011	0.92	0.25	0.0070		45	38	18	4.2
9220	mineral	160	110	37	110	2.8	0.13	0.12	0.0010	0.91	0.22	0.0060		50	27	15	<3.0
9217	mineral	2400	390	37	15	16	0.11	0.060	0.0017	1.3	0.11	0.054		63	49	30	8.0
9218	mineral	1300	380	42	22	9.8	0.11	0.070	0.0016	1.3	0.070	0.060		59	33	29	8.2
9215	mineral	2400	500	53	4.0	16	0.090	0.050	0.0015	1.1	0.12	0.040	<1.0	64	43	30	5.7
9216	mineral	2300	500	53	9.0	16	0.090	0.050	0.0015	1.2	0.19	0.044	<1.0	64	44	30	5.2

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Little Cataraqui Creek Conservation Area

Location Code: 4001030

UTM: 18T 379450 4903700

Landform: clay plain

Slope: level

Date: 80/06/17

Vegetation: grass, some assorted shrubs

Comments: many medium mottles - (10YR 5/6) at 30 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9232	surface	0-10	10YR 3/2	15	41	44	5.8	5.2	6.0	3.4	18			640	
9233	surface	0-10	10YR 3/2	14	43	43	5.9	5.2	5.1	3.5	19			680	
9230	mineral	10-30	10YR 4/2	15	43	42	5.7	5.0	2.8	1.9	10			570	
9231	mineral	10-30	10YR 4/2	17	34	49	5.7	5.0	3.3	2.0	8.9			550	
9228	mineral	30-40	10YR 5/1	18	35	47	6.3	5.6	0.70	0.65	6.1			390	
9229	mineral	30-40	10YR 5/1	14	37	49	6.3	5.6	0.89	0.90	6.2			510	
9226	mineral	40-60	10YR 5/1	7.0	18	75	6.7	6.4	0.21	0.32	17			600	
9227	mineral	40-60	10YR 5/1	8.0	19	73	7.0	6.6	0.25	0.29	15			590	

SOIL PROFILE INFORMATION (cont'd.)

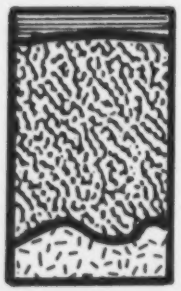
Site: Little Cataraqui Creek Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9232	surface	2000	570	220	<4.5	15	0.27	0.13	0.0099	1.4	0.14	0.035	<1.0	110	35	24	30
9233	surface	2000	440	190	<4.5	14	0.26	0.14	0.0085	1.4	0.14	0.035	<1.0	110	39	24	28
9230	mineral	4400	450	100	9.0	26	0.29	0.14	0.0062	1.4	0.15	0.034		96	29	23	15
9231	mineral	4100	440	110	9.0	24	0.28	0.14	0.0058	1.5	0.15	0.037		97	38	23	16
9228	mineral	1600	660	64		13	0.13	0.050	0.0035	1.7	0.090	0.053	<1.0	91	32	27	9.1
9229	mineral	1600	730	69		14	0.13	0.060	0.0036	1.5	0.080	0.048	<1.0	94	28	26	7.2
9226	mineral	3500	1800	140		32	0.030	0.020	0.0038	1.2	0.080	0.064	<1.0	120	64	52	8.9
9227	mineral	3400	1800	120		32	0.030	0.020	0.0041	1.2	0.080	0.059		120	64	50	8.1

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface 0
15
mineral
40
50
80
mineral 100



Site: Grave's Farm (near Kingston)

Location Code: 4001031

UTM: 18T 392850 4903750

Landform: beach

Slope: gentle slope

Date: 80/06/18

Vegetation: grass, maple, birch

Comments: iron nodules at 100 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9242	surface	0-15	10YR 5/3	86	10	4.0	5.9	4.8	1.3	0.76	6.7			700	
9243	surface	0-15	10YR 5/3	86	9.0	5.0	5.9	4.8	1.3	0.74	6.8			890	
9240	mineral	15-40	10YR 6/6	92	4.0	3.0	6.3	5.2	0.25	0.23	6.1			660	
9241	mineral	15-40	10YR 6/6				6.3	5.2	0.37	0.31	5.9			540	
9238	mineral	40-50	10YR 5/6	98	1.0	1.0	6.4	5.4	0.04	<0.13	3.1			530	
9239	mineral	40-50	10YR 5/6	98	1.0	<1.0	6.3	5.3	0.21	<0.14	3.6			580	
9236	mineral	50-80	10YR 5/6	99	2.0	<1.0	6.4	5.3	0.070	0.17	3.3			940	
9237	mineral	50-80	10YR 5/6	99	2.0	<1.0	6.3	5.4	0.090	<0.14	3.4			610	
9234	mineral	80-100	10YR 5/4	88	4.0	8.0	6.7	5.6	0.23	<0.12	2.6			730	
9235	mineral	80-100	10YR 5/4	87	8.0	5.0	6.4	5.4	0.23	<0.15	5.1			820	

SOIL PROFILE INFORMATION (cont'd.)

Site: Grave's Farm (near Kingston)

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9242	surface	260	53	75	17	2.1	0.14	0.15	0.0083	0.75	0.15	0.031		45	26	7.2	3.9
9243	surface	190	27	18	6.0	1.3	0.17	0.17	0.0099	0.76	0.18	0.028		36	20	5.7	3.6
9240	mineral	140	22	53	3.3	1.0	0.10	0.13	0.00080	0.74	0.13	0.0050	<1.0	30	21	7.6	<3.0
9241	mineral	140	32	47	3.3	1.1	0.13	0.16	0.00090	0.79	0.16	0.0060	<1.0	31	18	7.4	<3.0
9238	mineral	79	10	53	<2.3	0.62	0.040	0.070	0.0013	0.30	0.080	0.0040	<1.0	14	19	5.5	<3.0
9239	mineral	79	12	39	<2.3	0.60	0.050	0.080	0.0013	0.55	0.090	0.0060	<1.0	17	23	6.5	<3.0
9236	mineral	79	10	47	<2.3	0.63	0.030	0.050	0.0011	0.43	0.060	0.0070	<1.0	15	16	6.9	<3.0
9237	mineral	79	10	42	<2.3	0.60	0.020	0.050	0.0011	0.39	0.060	0.0070	<1.0	12	19	5.8	<3.0
9234	mineral	190	35	73		1.3	0.020	0.020	0.0010	0.49	0.040	0.012	<1.0	17	14	5.7	<3.0
9235	mineral	220	41	110	<2.3	1.7	0.030	0.030	0.00090	0.50	0.050	0.012	<1.0	17	17	8.6	<3.0

SOIL PROFILE INFORMATION

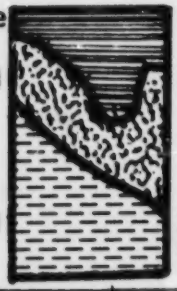
Horizon | Depth (cm)

surface 0

mineral 20

mineral 35

45



Site: Charleston Lake Provincial Park

Location Code: 4001063

UTM: 18T 418100 4928650

Landform: clay plain

Slope: simple, class 1, level

Date: 80/07/21

Vegetation: maple, junipers

Comments: faint mottling at 35 cm
very stoney (granitic)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9501	surface	0-20	10YR 3/1	49	33	18	6.0	5.2	2.8	1.8	9.8			400	
9502	surface	0-20	10YR 3/1	55	28	17	5.9	5.2	3.0	1.9	11			490	
9499	mineral	20-35	10YR 4/3	49	32	19	6.3	5.3	0.69	0.61	4.0			370	
9500	mineral	20-35	10YR 4/3	48	35	17	6.2	5.2	0.69	0.63	3.5			280	
9497	mineral	35-45	10YR 5/2	16	36	48	6.2	5.5	0.61	0.45	5.9			580	
9498	mineral	35-45	10YR 5/2	28	35	37	6.2	5.4	0.59	0.45	4.3			490	

SOIL PROFILE INFORMATION (cont'd.)

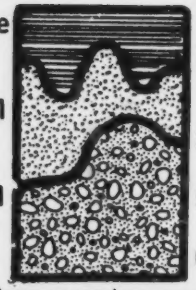
Site: Charleston Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9501	surface	1300	260	92	<4.5	8.6	0.18	0.090	0.022	0.64	0.14	0.042	<1.0	130	26	11	13
9502	surface	1300	260	92	<4.5	8.6	0.19	0.10	0.022	0.60	0.13	0.039	<1.0	110	13	9.6	14
9499	mineral	660	150	26	4.2	4.6	0.19	0.11	0.012	0.67	0.15	0.042	<1.0	150	26	14	5.1
9500	mineral	720	150	26	4.0	4.9	0.18	0.11	0.012	0.70	0.15	0.043	<1.0	140	27	14	4.9
9497	mineral	1800	580	38		13	0.080	0.040	0.0053	1.2	0.18	0.060	<1.0	124	47	33	8.4
9498	mineral	1400	440	49	3.2	11	0.070	0.040	0.0047	1.0	0.17	0.056	<1.0	140	47	29	7.4

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Foley Mountain Conservation Area

Location Code: 4001064

UTM: 18T 389550 4948700

Landform: shallow till and rock outcrops

Slope: simple, class 1, level

Date: 80/07/21

Vegetation: pine, spruce, grasses

Comments: very stoney 30-60 cm
depth to bedrock 60 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9509	surface	0-17	10YR 3/2	78	12	10	5.4	4.4	3.4	1.3	9.9			980	
9510	surface	0-17	10YR 3/2	77	15	8.0	5.4	4.4	2.4	1.7	7.8			1400	
9507	mineral	17-25	5YR 4/6	84	11	4.0	5.6	4.7	0.72	0.61	8.2			1500	
9508	mineral	17-25	5YR 4/6	82	13	5.0	5.5	4.7	0.76	0.62	7.7			1400	
9505	mineral	25-50	5YR 5/6	89	7.0	3.0	5.7	4.7	0.60	0.43	8.3			1600	
9506	mineral	25-50	5YR 5/6	84	11	5.0	5.6	4.7	0.76	0.20	8.6			580	
9503	mineral	50-60	5YR 5/6	92	6.0	2.0	5.5	4.6	0.63	0.17	9.2			510	
9504	mineral	50-60	5YR 5/6	84	13	3.0	5.6	4.6	0.65	0.41	7.1			1500	

SOIL PROFILE INFORMATION (cont'd.)

Site: Foley Mountain, Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9509	surface	300	43	49	50	2.5	0.29	0.27	0.066	1.6	0.42	0.24		77	9.1	12	16
9510	surface	210	34	39	48	1.9	0.20	0.18	0.051	1.4	0.37	0.17		67	6.6	54	11
9507	mineral	53	12	20	17	0.58	0.18	0.22	0.0025	1.4	0.43	0.018		49	23	23	<3.0
9508	mineral	53	12	15	19	0.58	0.17	0.24	0.0041	1.3	0.42	0.023		46	20	18	3.1
9505	mineral	74	12	15	17	0.68	0.25	0.25	0.0043	1.3	0.36	0.022		47	20	31	3.1
9506	mineral	85	12	15	21	0.77	0.19	0.21	0.0036	1.3	0.38	0.024		43	19	25	3.5
9503	mineral	96	12	15	83	1.4	0.26	0.20	0.0039	1.3	0.34	0.017		30	23	29	<3.0
9504	mineral	74	12	10	27	0.76	0.25	0.20	0.0066	1.4	0.37	0.029		36	28	34	3.1

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

Site: Perth Wildlife Reserve

Location Code: 4001065

UTM: 18T 407100 4972150

Landform: shallow till and rock ridge

Slope: level

Date: 80/07/21

Vegetation: grasses

Comments: depth to granite bedrock 35 cm
stoney at 30 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9513	surface	0-25	10YR 3/2	42	35	23	6.6	6.0	2.9	2.0	9.8			780	
9514	surface	0-25	10YR 3/2	50	28	22	6.8	6.1	2.5	2.1	11			870	
9511	mineral	25-35	10YR 4/3	43	32	25	6.9	6.3	0.72	0.53	6.0			890	
9512	mineral	25-35	10YR 4/3	50	23	27	7.0	6.3	0.65	0.70	4.0			910	

SOIL PROFILE INFORMATION (cont'd.)

Site: Perth Wildlife Reserve

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9513	surface	1900	170	45		11	0.15	0.10	0.030	1.2	0.18	0.089	<1.0	58	13	13	7.4
9514	surface	1900	170	50		11	0.13	0.090	0.028	1.2	0.18	0.089	<1.0	50	11	11	5.4
9511	mineral	1300	140	32		7.7	0.090	0.030	0.0056	1.2	0.17	0.089	<1.0	35	12	16	3.7
9512	mineral	1300	140	32		7.7	0.070	0.030	0.0054	1.1	0.15	0.083	<1.0	32	13	16	3.1

SOIL PROFILE INFORMATION

Horizon Depth (cm)

Site: Rideau River Provincial Park

Location Code: 4001066

UTM: 18T 446550 4989100

Landform: sand plain/beach

Slope: level

Date: 80/07/21

Vegetation: pine, ferns, grass

Comments: abundant mottles below 50 cm (10YR 5/8), iron concretions in 40-50 cm depth, evidence of plowing, reforestation

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9523	surface	0-30	10YR 3/3	82	13	5.0	6.1	5.1	2.7	1.2	17			370	
9524	surface	0-30	10YR 3/3	82	11	7.0	6.1	5.2	2.6	1.3	18			430	
9521	mineral	30-40	5YR 6/1	85	8.0	7.0	6.8	5.8	0.57	0.29	5.4			110	
9522	mineral	30-40	5YR 6/1	83	11	6.0	6.4	5.4	1.0	0.42	8.0			150	
9519	mineral	40-50	5YR 4/4	88	5.0	6.0	7.5	6.6	0.67	0.33	8.7			960	
9520	mineral	40-50	5YR 4/4	87	5.0	8.0	7.2	6.2	1.0	0.46	9.6			900	
9517	mineral	50-70	10YR 6/3	88	4.0	8.0	8.0	7.2	0.21	<0.10	6.2			980	
9518	mineral	50-70	10YR 6/3	87	5.0	7.0	7.8	7.0	0.21	<0.11	7.3			900	
9515	mineral	70+	10YR 5/2	82	10	8.0	8.3	7.5	0.15	<0.090	5.5			1200	
9516	mineral	70+	10YR 5/2	84	9.0	7.0	8.2	7.5	0.15	<0.090	8.5			1300	

SOIL PROFILE INFORMATION (cont'd.)

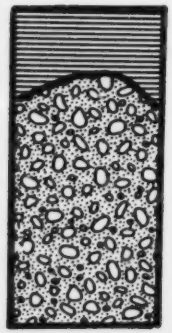
Site: Rideau River Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
9523	surface	590	73	20	8.4	3.7	0.15	0.16	0.0010	0.60	0.32	0.0030	<1.0	21	1.5	2.6	5.6
9524	surface	630	73	20	6.8	3.8	0.18	0.19	0.00080	0.58	0.31	0.0020	<1.0	19	1.7	2.0	5.0
9521	mineral	340	45	<1.6		2.1	0.020	0.020	0.0040	0.18	0.040	0.0010	<1.0	7.1	<1.0	<2.0	<3.0
9522	mineral	390	63	<1.6	<4.5	2.4	0.030	0.030	0.0040	0.11	0.050	0.0010	<1.0	5.5	<1.0	<2.0	<3.0
9519	mineral	560	92	2.5		3.5	0.11	0.16	0.0040	0.51	0.18	0.0020	<1.0	9.9	1.8	4.7	<3.0
9520	mineral	600	92	2.5		3.7	0.10	0.18	0.0040	0.40	0.17	0.0020	<1.0	9.2	1.4	4.6	<3.0
9517	mineral	450	120	<1.6		3.2	0.050	0.020	0.0013	0.66	0.080	0.011	2.0	11	2.9	5.6	<3.0
9518	mineral	400	92	2.5		2.8	0.080	0.030	0.0015	0.72	0.090	0.011	1.0	10	2.2	3.7	<3.0
9515	mineral	390	130	2.5		3.0	0.020	<0.0080	0.00080	0.76	0.050	0.017	2.0	15	6.3	5.3	<3.0
9516	mineral	460	140	2.5		3.4	0.020	<0.0080	0.00050	0.71	0.040	0.017	2.0	15	6.0	4.9	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: South Nation Provincial Park

Location Code: 4001068

UTM: 18T 495350 5044800

Landform: peat and muck

Slope: gentle slope

Date: 80/07/22

Vegetation: oak, sumac, spruce, pine

Comments: mica found at 40 cm.
very stoney,
evidence of past disturbance at 40 cm+

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9535	surface	0-12	10YR 3/1	71	8.0	21	6.7	6.2	8.2	3.8	20			680	
9536	surface	0-12	10YR 3/1	73	6.0	21	6.6	5.9	5.2	2.9	12			510	
9533	mineral	12-35	10YR 3/2	90	5.0	5.0	6.3	5.4	1.4	1.0	5.8			830	
9534	mineral	12-35	10YR 3/2	90	5.0	5.0	6.3	5.3	2.4	0.91	7.2			840	
9531	mineral	35-50	10YR 3/3	87	4.0	9.0	5.6	4.6	1.4	1.1	8.9			1000	
9532	mineral	35-50	10YR 3/3	85	5.0	10	5.8	4.7	1.9	1.1	7.5			970	

SOIL PROFILE INFORMATION (cont'd.)

Site: South Nation Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9535	surface	3700	240	120		20	0.30	0.22	0.036	0.50	0.22	0.021	<1.0	61	13	10	46
9536	surface	3400	180	75		19	0.27	0.19	0.010	0.55	0.22	0.013	<1.0	46	10	10	20
9533	mineral	990	61	40	<2.3	5.4	0.070	0.040	0.011	0.52	0.12	0.025	<1.0	38	9.3		4.2
9534	mineral	1000	66	40	<2.3	5.6	0.090	0.060	0.011	0.65	0.16	0.029	<1.0	54	12	11	7.2
9531	mineral	500	46	25	17	3.1	0.080	0.040	0.0055	0.42	0.10	0.013	<1.0	43	10	18	4.4
9532	mineral	620	56	25	12	3.7	0.15	0.070	0.017	0.66	0.16	0.027	<1.0	49	14		5.6

SOIL PROFILE INFORMATION

Horizon Depth (cm)

Site: Gray's Creek Conservation Area

Date: 80/07/22

Location Code: 4001070

UTM: 18T 526500 4987000

Vegetation: hawthorn, poplar

Landform: clay plain

Comments: stoney at 30 cm+

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9544	surface	0-10	10YR 3/1	27	21	52	6.8	6.4	7.4	4.9	28			1400	
9545	surface	0-10	10YR 3/1	26	21	53	6.7	6.3	14	4.6	29			1400	
9542	mineral	10-30	10YR2.5/1	34	25	42	5.9	5.4	3.7	2.7	18			1100	
9543	mineral	10-30	10YR2.5/1	32	27	41	6.0	5.5	4.3	3.1	18			1200	
9540	mineral	30-45	10YR 4/2	11	18	71	6.6	6.0	1.4	1.3	15			1100	
9541	mineral	30-45	10YR 4/2	10	20	70	6.4	6.0	1.2	1.3	15			860	

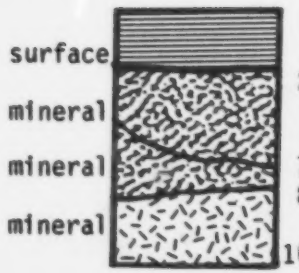
SOIL PROFILE INFORMATION (cont'd.)

Site: Gray's Creek Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9544	surface	4500	610	390		29	0.20	0.11	0.022	1.2	0.19	0.066	<1.0	130	28	32	25
9545	surface	4200	560	390		26	0.23	0.12	0.029	1.2	0.19	0.064	<1.0	120	29	32	25
9542	mineral	2600	510	200		17	0.28	0.13	0.022	1.3	0.22	0.072	<1.0	110	25	34	12
9543	mineral	4100	510	220	<4.5	25	0.27	0.14	0.022	1.3	0.22	0.072	<1.0	110	24	32	13
9540	mineral	3700	720	190		25	0.18	0.060	0.0086	1.4	0.22	0.061	<1.0	140	37	57	11
9541	mineral	3700	760	170		25	0.19	0.060	0.0070	1.6	0.25	0.057	<1.0	140	35	53	9.8

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Golden Lake, Eganville

Location Code: 4001071

UTM: 18T 328900 5048350

Landform: spillway

Slope: level

Date: 80/07/23

Vegetation: pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9556	surface	0-20	5YR 3/2	92	3.0	5.0	6.5	5.4	1.0	0.53	4.9			580	
9557	surface	0-20	5YR 3/2	93	4.0	3.0	6.3	5.3	0.97	0.60	4.5			670	
9554	mineral	20-40	5YR 4/6	90	3.0	7.0	5.6	5.6	0.15	0.23	3.8			530	
9555	mineral	20-40	5YR 4/6	91	2.0	7.0	6.6	5.6	0.18	<0.11	2.8			390	
9552	mineral	40-50	5YR 5/6	91	1.0	9.0	6.7	5.7	0.17	<0.13	3.3			600	
9553	mineral	40-50	5YR 5/6	93	<1.0	7.0	6.8	5.7	0.13	<0.13	2.2			560	
9550	mineral	50-70	7.5YR 4/4	93	1.0	6.0	6.8	5.8	0.13	<0.10	2.7			470	
9551	mineral	50-70	7.5YR 4/4	93	1.0	6.0	6.6	5.7	0.050	<0.13	2.7			540	
9548	mineral	70-80	5YR 4/6	95	<1.0	6.0	6.7	5.7	0.050	<0.13	2.6			440	
9549	mineral	70-80	5YR 4/6	92	1.0	7.0	6.7	5.7	0.030	<0.10	2.2			590	
9546	mineral	80-100	10YR 5/6	90	<1.0	9.0	6.9	6.0	0.11	<0.13	1.1			610	
9547	mineral	80-100	10YR 5/6	94	<1.0	6.0	6.8	5.9	0.050	<0.12	1.2			440	

SOIL PROFILE INFORMATION (cont'd.)

Site: Golden Lake, Eganville

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9556	surface	810	110	39	4.0	5.1	0.040	0.060	0.012	0.49	0.19	0.065	<1.0	60	5.0	60	4.4
9557	surface	430	53	150	6.0	3.0	0.030	0.050	0.0068	0.48	0.18	0.061	<1.0	66	4.7		3.9
9554	mineral	150	18	20		0.97	0.050	0.070	0.0051	0.52	0.20	0.024	<1.0	54	8.3	140	<3.0
9555	mineral	430	16	26		2.3	0.030	0.080	0.0038	0.45	0.16	0.019	<1.0	51	7.4	84	<3.0
9552	mineral	110	11	20		0.69	0.030	0.060	0.0045	0.49	0.14	0.021	<1.0	42	12	190	<3.0
9553	mineral	110	13	12		0.69	0.040	0.040	0.0042	0.50	0.14	0.021	<1.0	37	11	150	<3.0
9550	mineral	150	13	12		0.86	0.030	0.030	0.0038	0.38	0.070	0.026	<1.0	39	12	130	<3.0
9551	mineral	140	13	12		0.82	0.060	0.050	0.0075	0.49	0.11	0.029	<1.0	39	13	260	<3.0
9548	mineral	130	11	10		0.75	0.040	0.030	0.0047	0.45	0.080	0.039	<1.0	39	13	140	<3.0
9549	mineral	110	8.7	10		0.65	0.050	0.040	0.0058	0.42	0.080	0.030	<1.0	39	13	180	<3.0
9546	mineral	150	8.7	17		0.88	0.020	0.010	0.0020	0.29	0.050	0.017	<1.0	36	11	69	<3.0
9547	mineral	160	11	15		0.93	0.030	0.020	0.0041	0.29	0.060	0.018	<1.0	31	10	170	<3.0

SOIL PROFILE INFORMATION

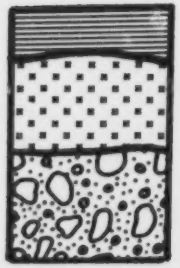
Horizon

surface

mineral

mineral

Depth (cm)



Site: Carillon Provincial Park

Location Code: 4001180

UTM: 18T 544650 5048000

Landform: clay plain/till plain

Slope: level

Date: 81/07/13

Vegetation: cedar, beech, maple

Comments: some faint mottling at 30 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17435	surface	0-20	10YR 4/1	32	20	48	6.4	5.9	5.0	3.9			<3.0		0.082
17434	surface	0-20	10YR 4/1	30	19	50	6.2	5.8	5.0	4.1			<3.0		0.11
17433	mineral	20-50	10YR 3/2	42	17	41	7.4	6.8	2.0	2.2			<3.0		<0.080
17432	mineral	20-50	10YR 3/2	36	20	44	7.4	6.8	2.0	1.8			<3.0		<0.080
17412	mineral	50+	10YR 4/4	41	24	35	7.3	6.4	2.0	1.5			<3.0		<0.080
17410	mineral	50+	10YR 4/4	42	23	35	7.3	6.5	4.0	1.4			<3.0		0.10

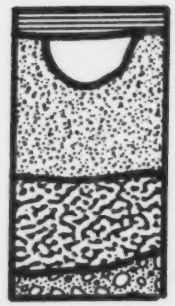
SOIL PROFILE INFORMATION (cont'd.)

Site: Carillon Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17435	surface	2600	460	170		17	0.17	0.084	0.090	2.1	0.24	0.21	<1.0	99	24	32	33
17434	surface	2500	460	180		16	0.16	0.079	0.079	2.1	0.22	0.20	<1.0	100	26	35	34
17433	mineral	2300	440	47		15	0.10	0.060	0.030	2.4	0.22	0.22	2.3	100	27	35	19
17432	mineral	2000	440	47		14	0.10	0.057	0.028	2.4	0.23	0.22	6.1	93	25	35	17
17412	mineral	1800	400	39		12	0.15	0.071	0.029	2.8	0.26	0.20	<1.0	87	31	40	21
17410	mineral	2100	420	39		14	0.13	0.062	0.030	2.7	0.26	0.22	<1.0	71	23	27	15

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Mill Pond Conservation Area

Location Code: 4001116

UTM: 18T 405900 4958900

Landform: shallow till and rock ridges

Slope: level

Date: 80/10/07

Vegetation: beech, white birch, white pine, ironwood, sugar maple

Comments: very stoney, faint mottles (5YR 3/4) below 60 cm, irregular, discontinuous bleached horizon

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
9946	surface	0-10	10YR 3/1	67	25	8.0	5.6	5.1	5.5	3.7	20			410	
9947	surface	0-10	10YR 3/1	57	36	7.0	6.2	5.3	3.0	2.1	6.2			300	
9945	mineral	10-17	5YR 7/1	64	29	7.0	5.9	4.8	0.82	0.48	2.1			150	
9943	mineral	10-40	10YR 5/6				6.2	5.0	1.2	0.52	4.3			230	
9944	mineral	10-40	10YR 5/6	57	32	10	5.8	4.9	1.2	0.62	3.6			280	
9941	mineral	40-60	10YR 6/6	58	32	10	6.1	5.0	0.51	0.30	3.4			410	
9942	mineral	40-60	10YR 6/6	57	33	10	6.1	5.1	0.41	0.26	3.7			380	
9939	mineral	60+	10YR 7/4	62	28	10	6.4	5.4	0.11	0.19	2.1			300	
9940	mineral	60+	10YR 7/4	61	29	10	6.4	5.4	0.13	<0.090	2.4			320	

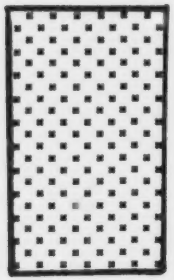
SOIL PROFILE INFORMATION (cont'd.)

Site: Mill Pond Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
9946	surface	1500	160	87	8.0	9.1	0.16	0.060	0.048	0.46	0.080	0.040	<1.0	87	40	5.6	35
9947	surface	1200	150	65	6.0	7.5	0.13	0.060	0.038	0.49	0.080	0.043	<1.0	59	13		14
9945	mineral	310	45	32	59	2.6	0.10	0.040	0.0052	0.45	0.060	0.018		32	29	3.0	5.5
9943	mineral	380	55	38	14	2.6	0.27	0.24	0.0020	0.96	0.30	0.0090		77	36	11	7.9
9944	mineral	390	64	32	16	2.7	0.23	0.19	0.0021	1.0	0.25	0.018		81	30	8.7	3.9
9941	mineral	300	50	49	<2.3	2.0	0.15	0.11	0.0073	0.69	0.17	0.020	<1.0	34	26	12	3.5
9942	mineral	310	59	49	5.0	2.2	0.14	0.10	0.0064	0.69	0.16	0.026	<1.0	29	27	12	8.5
9939	mineral	430	64	60	<2.3	2.8	0.070	0.040	0.0069	0.67	0.10	0.041	<1.0	26	27	9.2	<3.0
9940	mineral	310	83	65	<2.3	2.4	0.080	0.040	0.0069	0.70	0.10	0.049	<1.0	26	39	11	6.2

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: North Beach Provincial Park

Location Code: 4001158

UTM: 18T 297450 4869700

Landform: sand plain

Slope: gentle slopes

Date: 81/06/02

Vegetation: cedar

Comments:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18075	mineral	0-25	10YR 5/3	96	<1.0	4.0	8.5	7.4	<0.50	0.10			<3.0		<0.080
18074	mineral	0-25	10YR 5/3	95	<1.0	5.0	8.3	7.3	<0.50	0.20			<3.0		<0.080
18077	mineral	25-50	10YR 5/3	96	<1.0	8.0	8.9	7.7	<0.50	0.70			<3.0		<0.080
18076	mineral	25-50	10YR 5/3	96	<1.0	5.0	9.0	7.8	<0.50	0.10			<3.0		<0.14

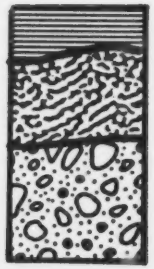
SOIL PROFILE INFORMATION (cont'd.)

Site: North Beach Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18075	mineral	160	1.0	8.0		0.80	0.0020	0.0020	0.0010	0.063	0.0090	0.0032	20	6.3	<1.0	<2.0	<3.0
18074	mineral	150	1.0	7.0		0.75	0.0030	0.0020	0.0014	0.30	0.0140	0.0032	22	28	1.8	<2.0	<3.0
18077	mineral	250	4.0	12		1.3	0.0030	0.0020	0.0010	0.20	0.0090	0.0029	21	10	1.2	<2.0	<3.0
18076	mineral	290	7.0	11		1.5	0.0050	0.0040	0.0015	0.38	0.011	0.0039	18	25	2.2	<2.0	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: McCauley Mountain Conservation Area

Date: 81/06/02

Location Code: 4001159

UTM: 18T 329050 4873000

Vegetation: mixed forest

Landform: limestone plain

Comments: faint mottling in 17-30 cm depth

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18079	surface	0-17	10YR 3/3	52	20	28	7.5	7.0	2.0	1.7			<3.0		<0.080
18080	surface	0-17	10YR 3/3	52	18	29	7.5	7.0	2.0	1.7			<3.0		0.14
18081	mineral	17-30	10YR 3/4	52	18	31	7.7	7.1	1.0	0.70			<3.0		<0.080
18082	mineral	17-30	10YR 3/4	56	15	28	7.6	7.0	1.0	0.70			<3.0		<0.080
18083	mineral	30-50	10YR 5/4	65	17	19	8.0	7.4	1.0	0.50			<3.0		<0.080
18084	mineral	30-50	10YR 5/4	63	14	23	8.0	7.6	<0.50	0.40			<3.0		<0.080

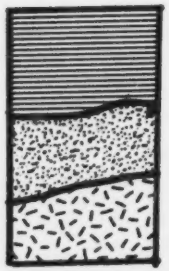
SOIL PROFILE INFORMATION (cont'd.)

Site: McCauley Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18079	surface	2600	54	60		14	0.090	0.057	0.012	0.82	0.16	0.023	2.0	58	7.9	10	12
18080	surface	2100	54	63		11	0.089	0.054	0.0094	0.88	0.17	0.022	2.0	59	8.0	11	6.5
18081	mineral	1600	47	55		8.5	0.11	0.063	0.0058	0.85	0.17	0.018	2.0	43	10	13	<3.0
18082	mineral	1700	50	60		9.1	0.093	0.056	0.0040	0.74	0.14	0.012	2.0	38	7.9	11	4.1
18083	mineral	950	22	41		5.0	0.054	0.040	0.0026	0.64	0.13	0.030	5.9	32	10	11	<3.0
18084	mineral	1100	22	41		5.6	0.038	0.030	0.0014	0.50	0.11	0.027	5.8	27	9.3	10	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Railton

Location Code: 4001160

UTM: 18T 377350 4915450

Landform: limestone till plain

Slope: level

Date: 81/06/03

Vegetation: beech, grasses

Comments: near A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18073	surface	0-20	10YR 3/2	54	29	17	4.9	4.2	2.0	2.6			7.0		6.3
18072	surface	0-20	10YR 3/2	47	27	26	5.7	5.1	3.0	3.6			5.0		1.4
18071	mineral	20-40	10YR 5/6	53	33	15	5.1	4.3	2.0	0.90			<3.0		5.7
18070	mineral	20-40	10YR 5/6	55	30	14	5.1	4.3	1.0	0.90			5.0		6.7
18069	mineral	40-60	10YR 4/4	56	30	14	5.3	4.4	1.0	0.40			5.0		0.98
18068	mineral	40-60	10YR 4/4	63	25	12	5.2	4.4	1.0	0.60			<3.0		1.5

SOIL PROFILE INFORMATION (cont'd.)

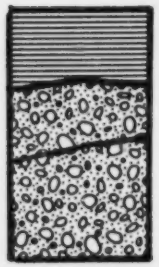
Site: Railton

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18073	surface	940	110	130	100	6.9	0.37	0.21	0.0020	0.86	0.23	0.0035		39	3.6	6.1	<3.0
18072	surface	1500	260	200	<4.5	10	0.25	0.14	0.0061	0.58	0.16	0.0093	<1.0	40	4.5	5.8	7.6
18071	mineral	170	27	52	120	2.4	0.37	0.32	0.0028	0.98	0.38	0.0098		67	7.4	16	<3.0
18070	mineral	120	18	45	110	2.0	0.38	0.30	0.0027	0.98	0.36	0.011		56	8.1	14	<3.0
18069	mineral	530	100	45	52	4.1	0.13	0.095	0.0022	0.61	0.12	0.031		32	7.7	14	<3.0
18068	mineral	420	73	48	72	3.5	0.12	0.10	0.0022	0.69	0.14	0.033		34	8.8	15	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Railton

Location Code: 4001161

UTM: 18T 373050 4914550

Landform: till plain and rock ridges

Slope: nearly level

Date: 81/06/03

Vegetation: coniferous forest

Comments: depth to bedrock 60 cm. near A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18090	surface	0-25	5YR 2.5/2	65	14	20	7.1	6.6	4.0	2.4			<3.0		0.10
18089	surface	0-25	5YR 2.5/2	58	21	21	7.0	6.5	3.0	2.3			<3.0		0.11
18088	mineral	25-40	5YR 3/4	71	10	19	7.4	6.8	1.0	0.90			<3.0		<0.080
18087	mineral	25-40	5YR 3/4	74	10	16	7.6	6.9	1.0	0.60			<3.0		<0.080
18086	mineral	40-60	5YR 3/4	76	10	15	7.5	6.9	1.0	0.70			<3.0		<0.080
18085	mineral	40-60	5YR 3/4	74	12	14	7.5	7.0	1.0	0.70			<3.0		<0.080

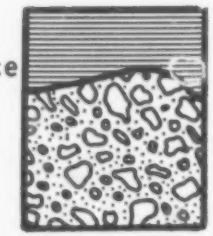
SOIL PROFILE INFORMATION (cont'd.)

Site: Railton

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18090	surface	2000	82	62		11	0.15	0.11	0.048	1.3	0.24	0.11	<1.0	80	15	18	19
18089	surface	1800	92	62		9.7	0.17	0.11	0.042	1.1	0.22	0.066	<1.0	74	13	16	16
18088	mineral	1200	45	36		6.5	0.12	0.082	0.019	0.98	0.17	0.076	<1.0	46	10	15	3.5
18087	mineral	1100	31	30		5.7	0.13	0.088	0.020	1.3	0.24	0.14	<1.0	46	18	24	4.5
18086	mineral	1300	41	41		6.8	0.073	0.056	0.0098	1.2	0.22	0.14	<1.0	40	16	20	<3.0
18085	mineral	1200	41	43		6.3	0.077	0.056	0.010	1.3	0.24	0.16	<1.0	39	17	20	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Whitman Creek

Location Code: 4001162

UTM: 18T 352650 4926450

Landform: limestone plain

Slope: level

Date: 81/06/03

Vegetation: maple

Comments: depth to bedrock 15 cm. near A.P.I.O.S. precipitation collector

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18092	surface	0-15		54	26	21	7.4	7.0	4.0	2.6			20		0.27
18091	surface	0-15		56	23	22	7.4	7.0	4.0	2.8			19		0.22

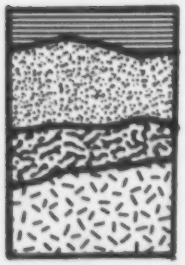
SOIL PROFILE INFORMATION (cont'd.)

Site: Whitman Creek

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18092	surface	3100	210	230		18	0.17	0.074	0.024	0.68	0.10	0.044	3.0	66	6.4	7.3	8.7
18091	surface	3300	220	220		19	0.16	0.073	0.028	0.70	0.11	0.050	2.0	72	7.4	7.7	8.1

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Vanderwater Conservation Area

Location Code: 4001172

UTM: 18T 315500 4916650

Landform: moraine

Slope: nearly level

Date: 81/06/09

Vegetation: pine forest

Comments: some large stones

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18105	surface	0-17	5YR 3/1	79	11	9.0	5.7	5.0	3.0	1.6			<3.0		0.50
18104	surface	0-17	5YR 3/1	77	9	14	6.1	5.4	3.0	2.0			<3.0		0.44
18103	mineral	17-40	7.5YR 4/6	90	6.0	3.0	6.3	5.5	1.0	0.60			<3.0		0.32
18102	mineral	17-40	7.5YR 4/6	92	5.0	3.0	6.3	5.5	1.0	0.60			<3.0		0.21
18101	mineral	40-55	7.5YR 5/4	90	5.0	4.0	6.4	5.7	1.0	0.30			<3.0		0.27
18100	mineral	40-55	7.5YR 5/4	83	13	4.0	6.4	5.5	1.0	0.30			<3.0		0.25
18099	mineral	55-70	7.5YR 4/4	83	12	4.0	6.4	5.7	1.0	0.30			<3.0		0.53
18098	mineral	55-70	7.5YR 4/4	82	12	6.0	6.6	5.8	1.0	0.30			<3.0		0.10

SOIL PROFILE INFORMATION (cont'd.)

Site: Vanderwater Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18105	surface	660	38	19	5.0	3.7	0.21	0.16	0.022	0.87	0.20	0.034	<1.0	52	3.9	8.0	5.8
18104	surface	930	61	34	<4.5	5.2	0.24	0.16	0.032	0.77	0.17	0.037	<1.0	59	4.5	7.8	11
18103	mineral	600	11	5.0		3.1	0.30	0.25	0.0021	0.89	0.33	0.0084	<1.0	43	3.2	10	<3.0
18102	mineral	540	9.0	5.0		2.8	0.19	0.18	0.0014	0.72	0.26	0.0063	<1.0	35	2.4	7.7	<3.0
18101	mineral	430	9.0	5.0		2.2	0.15	0.17	0.0024	0.60	0.22	0.011	<1.0	30	1.9	9.1	<3.0
18100	mineral	410	7.0	5.0		2.1	0.17	0.20	0.0047	0.62	0.21	0.012	<1.0	22	2.3	8.8	<3.0
18099	mineral	370	5.0	6.0		1.9	0.098	0.12	0.0040	0.46	0.13	0.021	<1.0	22	3.7	9.5	<3.0
18098	mineral	550	17	11		2.9	0.091	0.11	0.0050	0.55	0.13	0.031	<1.0	22	3.2	9.5	<3.0

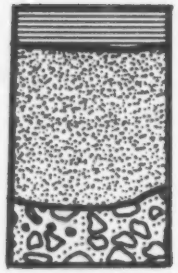
SOIL PROFILE INFORMATION

Horizon Depth (cm)

surface 0
10

mineral 40

mineral 60



Site: O'Hara Mill Conservation Area

Date: 81/06/09

Location Code: 4001177

UTM: 18T 295950 4932150

Vegetation: maple, hemlock

Landform: shallow till and rock ridges

Comments: shale at 60 cm.

Slope: very gentle slopes

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18097	surface	0-10	10YR 3/2	35	43	22	6.0	5.6	2.0	3.2			<3.0		0.25
18096	mineral	10-40	7.5YR 4/4	39	55	6.0	5.6	4.8	1.0	0.50			<3.0		0.80
18095	mineral	10-40	7.5YR 4/4	42	50	8.0	5.5	4.7	1.0	0.50			<3.0		0.97
18094	mineral	40-60	10YR 4/6	55	38	7.0	5.8	4.9	<0.50	0.30			<3.0		0.17
18093	mineral	40-60	10YR 4/6	48	46	7.0	5.8	4.9	<0.50	0.30			<3.0		0.25

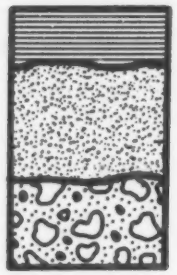
SOIL PROFILE INFORMATION (cont'd.)

Site: O'Hara Mill Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18097	surface	2000	220	310		12	0.18	0.15	0.017	0.84	0.22	0.026	<1.0	58	5.3	7.0	<3.0
18096	mineral	440	34	100	24	2.9	0.25	0.14	0.0059	1.00	0.18	0.027		58	6.9	6.0	<3.0
18095	mineral	360	31	120	33	2.7	0.21	0.14	0.0047	0.92	0.18	0.021		51	6.4	6.5	<3.0
18094	mineral	550	52	38	9	3.4	0.10	0.073	0.0018	0.56	0.090	0.028		30	6.5	9.5	<3.0
18093	mineral	590	50	46	11	3.6	0.12	0.075	0.0023	0.76	0.10	0.036		40	9.0	9.9	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Sharbot Lake Provincial Park

Location Code: 4001178

UTM: 18T 363650 4959650

Landform: shallow till and rock ridge

Slope: very strong slopes

Date: 81/06/11

Vegetation: maple, oak

Comments: depth to granite bedrock 70 cm, evidence of bleached horizon.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18129	surface	0-10	5YR 3/1	68	22	10	5.3	4.5	4.0	2.5			18		1.7
18128	surface	0-10	5YR 3/1	70	22	7.0	5.4	4.5	2.0	2.5			12		1.3
18127	mineral	10-40	5YR 4/4	78	19	3.0	5.4	4.5	1.0	0.80			8.0		2.1
18126	mineral	10-40	5YR 4/4	79	18	3.0	5.5	4.6	1.0	0.70			<3.0		2.3
18125	mineral	40-70	10YR 5/6	83	14	3.0	5.5	4.6	1.0	0.30			4.0		1.8
18124	mineral	40-70	10YR 5/6	83	15	2.0	5.6	4.6	1.0	0.30			<3.0		0.20

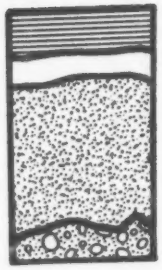
SOIL PROFILE INFORMATION (cont'd.)

Site: Sharbot Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18129	surface	940	99	83	11	5.8	0.21	0.18	0.048	0.89	0.25	0.100		88	7.1	10	6.5
18128	surface	970	100	66	11	5.9	0.25	0.18	0.040	1.0	0.32	0.090		100	6.6	11	8.6
18127	mineral	150	18	6.0	16	1.1	0.16	0.18	0.0048	1.1	0.40	0.014		74	12	18	<3.0
18126	mineral	160	18	5.0	18	1.2	0.20	0.24	0.0056	1.1	0.39	0.016		71	10	15	<3.0
18125	mineral	180	20	9.0	16	1.2	0.16	0.17	0.0081	0.89	0.22	0.025		50	14	15	<3.0
18124	mineral	180	13	6.0	14	1.1	0.15	0.15	0.0080	0.95	0.21	0.030		53	14	15	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Silver Lake Provincial Park

Location Code: 4001179

UTM: 18T 375300 4965350

Landform: shallow till and rock ridges

Slope: very gentle slope

Date: 81/06/09

Vegetation: maple, hemlock, grasses, mosses

Comments: weathered granitic bedrock at 58 cm, earthworms throughout profile.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18113	surface	0-12	5YR 2.5/1	73	18	9.0	5.3	4.8	4.0	2.5			8.0		1.6
18112	surface	0-12	5YR 2.5/1	64	25	11	5.2	4.7	4.0	3.0			9.0		2.1
18111	mineral	12-17	7.5YR 4/2	66	27	6.0	5.0	4.3	1.0	1.1			<3.0		2.3
18110	mineral	17-45	7.5YR 4/4	66	28	6.0	5.5	4.7	2.0	1.0			<3.0		1.9
18109	mineral	17-45	7.5YR 4/4	71	23	6.0	5.5	4.7	2.0	0.80			<3.0		1.6
18108	mineral	45-58	7.5YR 4/4	72	25	2.0	5.5	4.8	2.0	0.80			<3.0		1.6
18107	mineral	45-58	7.5YR 4/4	69	28	3.0	5.6	4.8	1.0	0.70			<3.0		1.5
18106	mineral	58+		89	7.0	5.0	5.6	4.6	1.0	0.20			<3.0		2.5

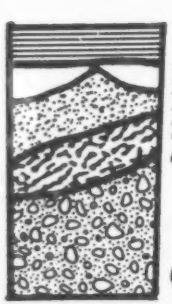
SOIL PROFILE INFORMATION (cont'd.)

Site: Silver Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18113	surface	2300	240	77	<4.5	14	0.17	0.096	0.019	0.78	0.13	0.027		58	10	30	12
18112	surface	3300	360	120	5.0	20	0.19	0.081	0.013	0.60	0.12	0.018		49	8.6	26	9.6
18111	mineral	990	120	75	12	6.3	0.26	0.12	0.0044	0.89	0.15	0.0089		49	8.1	27	<3.0
18110	mineral	670	100	56	16	4.5	0.40	0.30	0.0011	1.5	0.53	0.0056		99	21	92	<3.0
18109	mineral	630	100	83	22	4.4	0.51	0.33	0.0011	1.6	0.52	0.0056		100	19	88	<3.0
18108	mineral	710	110	46	22	4.7	0.68	0.60	0.0027	1.2	0.60	0.0063		66	23	89	<3.0
18107	mineral	780	120	73	33	5.4	0.29	0.27	0.0011	1.1	0.44	0.0065		53	21	84	<3.0
18106	mineral	850	190	120	42	6.4	0.31	0.19	0.0028	0.84	0.24	0.011		47	12	110	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Wilberforce Township - Pembroke

Date: 81/07/14

Location Code: 4001181

UTM: 18T 328400 5061400

Vegetation: red oak, white birch, red maple, white pine, white spruce

Landform: sand plain

Slope: very gentle slopes

Comments: moderately stoney (granitic) at 30-65 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17445	surface	0-10	10YR 2/1	69	19	12	4.1	3.4	9.0	6.8			28		17
17444	surface	0-10	10YR 2/1				4.2	3.4	23	18			58		11
17443	mineral	10-15	10YR 6/2	80	17	3.0	4.5	3.5	1.0	0.40			<3.0		4.7
17442	mineral	10-15	10YR 6/2	79	13	8.0	4.4	3.4	1.0	0.70			<3.0		4.6
17441	mineral	15-25	7.5YR 4/6	91	1.0	8.0	5.2	4.4	2.0	0.90			<3.0		4.4
17440	mineral	15-25	7.5YR 4/6	92	1.0	7.0	5.3	4.5	2.0	0.80			<3.0		2.7
17439	mineral	25-40	10YR 4/6	92	1.0	7.0	5.3	4.6	2.0	0.50			<3.0		2.4
17438	mineral	25-40	10YR 4/6	91	7.0	3.0	5.4	4.6	2.0	0.40			<3.0		2.3
17437	mineral	40-65	10YR 5/8	88	5.0	7.0	5.2	4.6	1.0	0.40			<3.0		2.1
17436	mineral	40-65	10YR 5/8	86	6.0	8.0	5.3	4.6	1.0	0.50			<3.0		1.8

SOIL PROFILE INFORMATION (cont'd.)

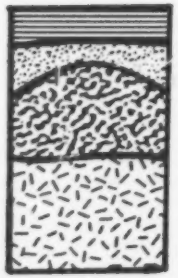
Site: Wilberforce Township - Pembroke

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17445	surface	2600	260	350	44	17	0.15	0.082	0.010	0.44	0.13	0.010		51	7.2	7.0	47
17444	surface	3500	410	420	23	22	0.14	0.095	0.0094	0.38	0.14	0.0099		64	10	10	98
17443	mineral	180	18	26	51	1.6	0.028	0.019	<0.00010	0.17	0.026	0.00030		9.5	1.7	<2.0	<3.0
17442	mineral	290	33	29	64	2.4	0.056	0.030	<0.00010	0.23	0.041	0.00060		8.5	1.6	<2.0	<3.0
17441	mineral	110	9.0	11	44	1.1	0.59	0.66	0.00080	1.5	0.99	0.0020		40	10	10	<3.0
17440	mineral	63	6.0	8.0	13	0.52	0.25	0.41	0.00040	1.2	0.85	0.0013		37	11	10	<3.0
17439	mineral	56	4.0	8.0	15	<0.50	0.22	0.33	0.00070	0.94	0.72	0.0018		30	12	8.3	<3.0
17438	mineral	44	4.0	7.0	11	<0.50	0.16	0.29	0.00040	0.94	0.67	0.0010		26	11	8.8	<3.0
17437	mineral	32	4.0	7.0	13	<0.50	0.12	0.21	0.00030	1.4	0.56	0.0018		27	11	8.7	<3.0
17436	mineral	32	4.0	7.0	8.0	<0.50	0.12	0.25	0.00030	0.88	0.55	0.0018		27	14	10	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)

surface 0
10
mineral
20
mineral
50
mineral 70
80



Site: Carson Lake Provincial Park

Date: 81/07/14

Location Code: 4001182

UTM: 18T 285350 5042300

Vegetation: maple, beech, red pine

Landform: shallow till and rock ridges

Slope: nearly level

Comments: many medium mottles at 70 cm
mottle colour 10YR 6/8

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17455	surface	0-10	10YR 3/1	17	63	20	5.4	4.7	10	5.5			9.0		3.1
17454	surface	0-10	10YR 3/1	18	62	20	5.4	4.7		5.1			9.0		2.6
17453	mineral	10-20	10YR 3/6	24	69	7.0	5.4	4.6	2.0	1.8			<3.0		2.7
17452	mineral	10-20	10YR 3/6	21	73	6.0	5.4	4.6	2.0	2.1			<3.0		3.6
17451	mineral	20-50	10YR 3/4	26	70	4.0	5.2	4.5	1.0	1.1			5.0		3.6
17450	mineral	20-50	10YR 3/4	32	64	4.0	5.2	4.5	1.0	1.0			6.0		3.9
17449	mineral	50-70	10YR 3/4	37	60	3.0	5.2	4.5	1.0	0.60			<3.0		3.7
17448	mineral	50-70	10YR 3/4	45	52	3.0	5.3	4.5	1.0	0.50			<3.0		3.4
17447	mineral	70-80	10YR 6/4	66	31	3.0	5.3	4.6	<0.50	0.30			<3.0		2.8
17446	mineral	70-80	10YR 6/4	68	29	3.0	5.3	4.6	<0.50	0.30			<3.0		2.4

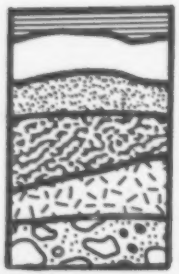
SOIL PROFILE INFORMATION (cont'd.)

Site: Carson Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
17455	surface	980	94	130	28	6.3	0.35	0.26	0.030	0.71	0.40	0.038		49	6.2	4.8	7.5
17454	surface	1300	110	130	21	8.0	0.36	0.29	0.030	0.74	0.45	0.037		51	6.2	5.7	7.8
17453	mineral	250	15	41	34	1.8	0.41	0.44	0.0020	1.0	0.72	0.0028		47	7.2	6.6	<3.0
17452	mineral	310	18	53	38	2.2	0.58	0.57	0.0021	1.1	0.72	0.0035		49	6.7	7.0	<3.0
17451	mineral	150	9.0	23	33	1.2	0.18	0.20	0.0011	0.79	0.44	0.0025		38	9.2	8.3	<3.0
17450	mineral	150	9.0	26	33	1.2	0.17	0.20	0.0013	0.80	0.45	0.0028		39	9.7	8.6	<3.0
17449	mineral	87	6.0	17	34	0.87	0.20	0.20	0.00040	0.61	0.33	0.0018		32	9.7	8.0	<3.0
17448	mineral	87	3.0	17	29	0.79	0.19	0.18	0.00040	0.58	0.31	0.00080		29	10	7.8	<3.0
17447	mineral	71	3.0	8.0	19	0.59	0.15	0.15	0.00040	0.55	0.23	0.00050		26	10	6.2	<3.0
17446	mineral	63	3.0	14	19	0.57	0.14	0.14	0.00040	0.55	0.24	0.00030		26	11	6.1	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Lake St. Peter Provincial Park

Location Code: 3001183

UTM: 17T 733250 5022900

Landform: lacustrine deposit

Slope: level

Date: 81/07/14

Vegetation: birch, maple, poplar

Comments: very stoney at 70 cm (gravel lakebed)

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
17467	surface	0-10	10YR 2/1	85	11	5.0	5.1	4.4	4.0	2.4			6.0		2.8
17466	surface	0-10	10YR 2/1	80	13	7.0	5.1	4.4	6.0	3.0			6.0		4.9
17465	mineral	10-20	10YR 7/1	90	8.0	2.0	5.0	4.2	1.0	0.70			<3.0		2.3
17464	mineral	10-20	10YR 7/1	88	8.0	4.0	4.9	4.0	2.0	0.80			5.0		3.0
17463	mineral	20-30	7.5YR 3/4	92	4.0	4.0	5.4	4.5	4.0	1.1			<3.0		2.8
17462	mineral	20-30	7.5YR 3/4	90	6.0	4.0	5.4	4.5	5.0	1.2			<3.0		3.8
17461	mineral	30-50	10YR 4/6	95	2.0	2.0	5.4	4.6	3.0	0.60			4.0		2.5
17460	mineral	30-50	10YR 4/6	98	<1.0	2.0	5.4	4.7	2.0	0.30			<3.0		1.2
17459	mineral	50-70	10YR 4/6	98	<1.0	2.0	5.5	4.8	1.0	0.20			<3.0		1.1
17458	mineral	50-70	10YR 4/6	98	<1.0	2.0	5.4	4.7	1.0	0.20			<3.0		1.2
17457	mineral	70-80	2.5YR 6/6	97	<1.0	3.0	5.4	4.6	1.0	0.30			<3.0		1.5
17456	mineral	70-80	2.5YR 6/6	97	<1.0	2.0	5.3	4.6	1.0	0.40			<3.0		1.7

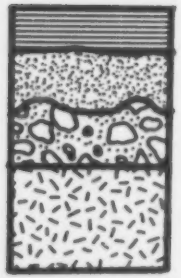
SOIL PROFILE INFORMATION (cont'd.)

Site: Lake St. Peter Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
17467	surface	1700	120	170	6.0	10	0.17	0.073	0.045	0.40	0.10	0.063		69	5.7	4.0	25
17466	surface	3000	170	260	13	17	0.16	0.076	0.050	0.42	0.12	0.077		87	7.2	3.9	29
17465	mineral	280	19	27	23	1.9	0.21	0.068	0.0078	0.46	0.099	0.014		27	3.0	2.3	<3.0
17464	mineral	280	21	37	40	2.0	0.21	0.071	0.0085	0.50	0.11	0.013		25	3.2	<2.0	<3.0
17463	mineral	150	6.0	20	23	1.1	1.1	0.88	0.0057	2.0	1.3	0.013		76	10	6.2	3.9
17462	mineral	140	6.0	20	29	1.1	1.4	1.0	0.0045	2.0	1.4	0.011		74	9.2	6.2	<3.0
17461	mineral	48	2.0	8.0	10	<0.50	0.38	0.60	0.0023	1.0	0.87	0.0068		62	13	8.7	<3.0
17460	mineral	44	2.0	10	8.0	<0.50	0.21	0.37	0.0019	0.90	0.75	0.0056		74	18	12	<3.0
17459	mineral	36	2.0	7.0	6.0	<0.50	0.14	0.20	0.0013	0.95	0.60	0.0056		39	26	10	<3.0
17458	mineral	36	2.0	7.0	6.0	<0.50	0.14	0.28	0.0017	0.87	0.55	0.0083		35	25	10	<3.0
17457	mineral	40	4.0	20	8.0	<0.50	0.15	0.20	0.0009	0.62	0.45	0.0033		26	23	7.6	<3.0
17456	mineral	36	1.0	13	9.0	<0.50	0.13	0.17	0.0005	0.58	0.36	0.0015		21	18	6.0	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Site: Palmerston-Canonto Conservation Area

Date: 81/06/11

Location Code: 1001189

UTM: 18T 356000 498850

Vegetation: white birch, grasses

Landform: shallow till and rock ridges

Slope: level

Comments: earthworms throughout profile, organic mottles at 35 and 50 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18137	surface	0-15	10YR 3/2				6.6	6.0	4.0	2.0			<3.0		0.15
18136	surface	0-15	10YR 3/2	81	15	4.0	6.6	6.0	4.0	1.7			<3.0		0.13
18135	mineral	15-35	7.5YR 5/4	82	10	8.0	6.4	5.7	1.0	0.50			<3.0		0.44
18134	mineral	15-35	7.5YR 5/4	79	11	11	6.4	5.5	1.0	0.60			<3.0		<0.080
18133	mineral	35-50	10YR 5/8	85	6.0	9.0	6.9	6.0	1.0	0.30			<3.0		<0.080
18132	mineral	35-50	10YR 5/8	88	7.0	6.0	6.6	5.7	<0.50	0.20			<3.0		0.56
18131	mineral	50-90		89	5.0	6.0	6.7	5.9	<0.50	0.10			<3.0		<0.080
18130	mineral	50-90		88	5.0	7.0	6.6	5.8	<0.50	0.20			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Palmerston-Canonto Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18137	surface	1300	160	44		7.7	0.18	0.13	0.050	1.3	0.27	0.24	<1.0	130	16	11	23
18136	surface	1300	160	40		7.7	0.21	0.14	0.052	1.2	0.27	0.27	<1.0	120	15	9.6	18
18135	mineral	530	34	34		3.0	0.17	0.20	0.0087	1.1	0.32	0.038	<1.0	90	9.4	16	5.2
18134	mineral	560	39	20		3.2	0.22	0.19	0.012	1.2	0.36	0.047	<1.0	98	9.1	16	<3.0
18133	mineral	490	16	9.0		2.6	0.099	0.10	0.010	0.93	0.18	0.037	<1.0	38	13	14	4.3
18132	mineral	360	13	9.0		2.0	0.081	0.077	0.0042	0.82	0.14	0.025	<1.0	30	11	12	<3.0
18131	mineral	530	16	15		2.8	0.065	0.037	0.0032	1.0	0.13	0.052	<1.0	43	17	15	3.4
18130	mineral	540	16	13		2.9	0.061	0.037	0.0051	0.86	0.12	0.053	<1.0	27	14	11	5.4

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

Site: Harcourt Crown Land, Bancroft

Location Code: 3001212

UTM: 17T 723500 4994350

Landform: spillway

Slope: level

Date: 81/08/18

Vegetation: maple, aspen, shrubs

Comments: very stoney at 35-90 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18391	surface	0-10	10YR 3/1	75	18	7.0	5.5	4.8	4.0	3.0			14		1.7
18390	surface	0-10	10YR 3/1	70	21	8.0	5.5	4.9	4.0	4.4			27		2.2
18389	mineral	10-20	10YR 4/4	74	21	5.0	5.0	4.2	3.0	1.8			24		5.8
18388	mineral	20-35	5YR 4/6	87	11	2.0	5.6	4.8	4.0	1.0			12		1.9
18387	mineral	20-35	5YR 4/6	88	11	1.0	5.7	4.9	4.0	1.4			5.0		1.8
18386	mineral	35-45	10YR 5/6	87	12	1.0	5.8	4.9	2.0	0.60			<3.0		1.3
18385	mineral	45-90	10YR 6/4	82	17	1.0	5.7	4.8	1.0	0.30			<3.0		1.1
18384	mineral	45-90	10YR 6/4	90	10	<1.0	5.8	4.9	<0.50	0.20			<3.0		1.1

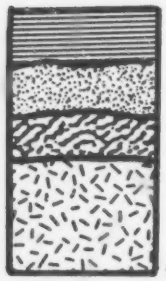
SOIL PROFILE INFORMATION (cont'd.)

Site: Harcourt Crown Land, Bancroft

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18391	surface	1000	140	120	4.0	6.5	0.31	0.21	0.018	0.83	0.22	0.022		54	6.7	3.8	13
18390	surface	1500	210	150	8.0	9.6	0.48	0.22	0.014	0.93	0.27	0.019		56	6.7	3.8	15
18389	mineral	1200	68	60	61	7.3	0.28	0.14	0.0017	0.81	0.16	0.0043		27	4.7	4.2	6.1
18388	mineral	480	43	56	20	3.1	0.82	0.62	0.0014	1.7	0.92	0.0066		54	8.2	6.6	<3.0
18387	mineral	460	37	48	19	2.9	0.53	0.59	0.0011	1.3	0.95	0.0059		50	7.2	6.1	<3.0
18386	mineral	130	12	37	14	0.99	0.23	0.29	0.00080	0.76	0.55	0.0026		45	13	9.0	<3.0
18385	mineral	41	3.0	21	9.0	<0.50	0.063	0.17	0.00030	0.37	0.23	0.0043		20	9.8	7.0	<3.0
18384	mineral	34	3.0	24	7.0	<0.50	0.039	0.12	0.00030	0.35	0.19	0.0045		18	9.7	7.5	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Combermere Crown Land

Location Code: 4001213

UTM: 18T 297000 5025000

Landform: spillway

Slope: level

Date: 81/08/18

Vegetation: birch, grasses

Comments: varves at depth, LFH horizon was not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18400	mineral	15-20	10YR 3/2	90	8.0	2.0	5.0	4.4	2.0	0.70			7.0		5.2
18399	mineral	20-30	10YR 5/6	98	2.0	<1.0	5.7	5.0	2.0	0.40			4.0		0.64
18398	mineral	20-30	10YR 5/6	99	3.0	<1.0	5.7	4.9	2.0	0.50			5.0		0.62
18397	mineral	30-80	10YR 6/6	99	1.0	<1.0	5.9	5.3	1.0	<0.10			5.0		<0.080
18396	mineral	30-80	10YR 6/6	99	1.0	<1.0	5.9	5.4	1.0	1.6			6.0		<0.080
18395	mineral	80-100	10YR 6/6	94	2.0	4.0	5.9	5.4	<0.50	<0.10			6.0		<0.080
18394	mineral	80-100	10YR 6/6	99	1.0	<1.0	5.9	5.4	<0.50	<0.10			7.0		<0.080
18393	mineral	100-120	10YR 6/4	99	1.0	<1.0	5.9	5.2	<0.50	<0.10			4.0		0.090
18392	mineral	100-120	10YR 6/4	100	<1.0	<1.0	5.7	5.1	<0.50	<0.10			3.0		0.096

SOIL PROFILE INFORMATION (cont'd.)

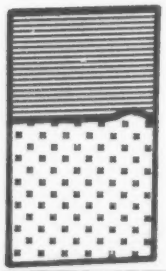
Site: Combermere Crown Land

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18400	mineral	30	2.0	9.0	38	0.57	0.16	0.24	0.0083	0.69	0.40	0.028		45	7.8	5.1	5.4
18399	mineral	49	3.0	9.0	4.0	<0.50	0.072	0.17	0.0013	0.94	0.63	0.0090	<1.0	61	14	10	<3.0
18398	mineral	45	3.0	9.0	4.0	<0.50	0.087	0.20	0.0021	0.94	0.64	0.012		60	12	10	<3.0
18397	mineral	34	2.0	10	<2.3	<0.50	0.026	0.13	0.00040	0.60	0.30	0.0047	<1.0	35	18	9.3	<3.0
18396	mineral	34	3.0	14	<2.3	<0.50	0.011	0.069	<0.00010	0.66	0.30	0.0052	<1.0	33	19	9.5	<3.0
18395	mineral	30	2.0	11	<2.3	<0.50	0.018	0.088	0.00040	0.59	0.21	0.0033	<1.0	24	16	8.1	<3.0
18394	mineral	30	2.0	12	<2.3	<0.50	0.015	0.070	0.00040	0.51	0.16	0.0040	<1.0	22	17	7.7	<3.0
18393	mineral	26	2.0	15	<2.3	<0.50	0.0040	0.026	<0.00010	0.31	0.065	0.0045	<1.0	18	13	6.3	<3.0
18392	mineral	15	2.0	12	<2.3	<0.50	0.0070	0.031	0.00020	0.36	0.068	0.0085	<1.0	21	14	5.9	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0



7

mineral

15

Site: K & P Trail, Barryvale

Location Code: 4001214

UTM: 18T 364200 501360

Landform: shallow till and rock ridges

Slope: very strong slopes

Date: 81/08/19

Vegetation: oak, birch

Comments: depth to bedrock 15 cm
very stoney at 7-15 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18402	surface	0-7	10YR 3/3	76	12	12	6.6	6.2	4.0	3.3			4.0		0.62
18401	mineral	7-15	10YR 4/6	81	15	4.0	6.4	5.8	1.0	0.40			<3.0		<0.080

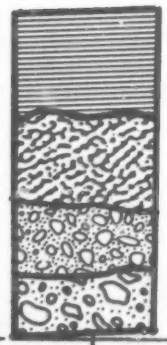
SOIL PROFILE INFORMATION (cont'd.)

Site: K & P Trail, Barryvale

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18402	surface	740	10	20		3.8	0.067	0.027	0.026	1.1	0.12	0.045	<1.0	64	21	14	23
18401	mineral	490	140	75		3.7	0.046	0.019	0.0026	0.59	0.079	0.012	<1.0	32	8.9	8.6	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Berwick Agreement Forest, Finch

Location Code: 4001215

UTM: 18T 491500 5002250

Landform: sand plain

Slope: level

Date: 81/08/19

Vegetation: pine

Comments: depth to watertable 70 cm, depth to faint mottling 50 cm, thick pine needles litter layer, very stoney in subsurface horizons

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18410	surface	0-15	10YR 3/1	75	8.0	17	7.0	6.4	6.0	3.6			32		<0.080
18409	surface	0-15	10YR 3/1	74	8.0	17	6.8	6.2	6.0	4.1			29		0.11
18408	mineral	15-25	10YR 4/6	90	3.0	7.0	7.3	6.6	1.0	0.50			<3.0		<0.080
18407	mineral	15-25	10YR 4/6	87	5.0	9.0	7.3	6.6	3.0	0.60			<3.0		<0.080
18406	mineral	25-35	10YR 5/6	92	2.0	6.0	7.4	6.6	1.0	0.30			<3.0		
18405	mineral	25-35	10YR 5/6	92	3.0	5.0	7.4	6.6	1.0	0.20			<3.0		
18404	mineral	35-55	7.5YR 4/2	73	13	15	7.5	6.9	1.0	0.80			<3.0		<0.080
18403	mineral	35-55	7.5YR 4/2	70	15	15	7.5	6.9	<0.50	0.80			<3.0		0.17

SOIL PROFILE INFORMATION (cont'd.)

Site: Berwick Agreement Forest, Finch

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18410	surface	2000	39	39		10	0.23	0.36	0.060	1.1	0.39	0.16	<1.0	100	13	8.0	25
18409	surface	2100	45	41		11	0.21	0.34	0.072	1.0	0.35	0.15	<1.0	110	14	8.5	18
18408	mineral	2000	8.0	12		9.9	0.13	0.14	0.0091	0.93	0.17	0.021	<1.0	44	3.7	8.0	<3.0
18407	mineral	620	10	14		3.2	0.14	0.17	0.011	1.0	0.19	0.023	<1.0	50	3.7	8.8	<3.0
18406	mineral	790	7.0	15		4.0	0.11	0.080	0.0081	0.74	0.11	0.026	<1.0	34	4.1	8.9	<3.0
18405	mineral	550	9.0	19		2.8	0.11	0.083	0.0063	0.73	0.12	0.019	<1.0	40	3.6	9.3	<3.0
18404	mineral	1400	16	30		7.2	0.22	0.13	0.014	1.2	0.19	0.068	<1.0	65	7.5	13	<3.0
18403	mineral	1800	33	47		9.4	0.20	0.14	0.017	1.3	0.20	0.082	<1.0	75	9.5	15	4.2

SOIL PROFILE INFORMATION

Horizon

surface

Depth (cm)

0

20

Site: Riverside Heights Crown Land, Chesterville

Location Code: 4001216

UTM: 18T 489950 4980350

Landform: peat and muck

Slope: level

Date: 81/08/20

Vegetation: maple, ferns

Comments: bog conditions organic soils

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18416	surface	0-20	10YR 2/1				6.1	5.7	32	17			19		0.19
18415	surface	0-20	10YR 2/1				6.1	5.7	32	16			17		0.16

SOIL PROFILE INFORMATION (cont'd.)

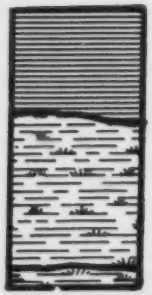
Site: Riverside Heights Crown Land, Chesterville

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18416	surface	10000	390	88		55	0.18	0.067	0.017	0.32	0.076	0.023	<1.0	54	5.2	2.2	19
18415	surface	10000	430	78		55	0.18	0.067	0.017	0.31	0.071	0.022	<1.0	53	4.8	2.3	19

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Site: Alexandria Crown Land, Alexandria

Date: 81/08/20

Location Code: 4001217

UTM: 18T 518550 5024600

Vegetation: maple, elm, grasses

Landform: till plain/clay plain

Slope: level

Comments: depth to watertable 30 cm, Fe mottles below 15 cm, organic mottles at 15-30 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18414	surface	0-15	10YR 2/1	33	22	45	7.7	7.3	9.0	9.1			19		<0.080
18413	surface	0-15	10YR 2/1	33	22	44	7.6	7.3	9.0	8.0			16		<0.080
18412	mineral	15-30	10YR 4/2	48	21	31	7.8	7.2	1.0	1.1			7.0		<0.080
18411	mineral	15-30	10YR 4/2	59	16	25	7.8	7.1	1.0	1.3			6.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

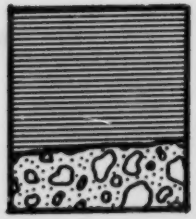
Site: Alexandria Crown Land, Alexandria

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18414	surface	4100	150	110		22	0.20	0.19	0.0091	0.50	0.20	0.014	3.0	390	23	10	22
18413	surface	2800	140	99		15	0.19	0.20	0.0086	0.51	0.20	0.015	3.0	380	23	10	21
18412	mineral	3500	130	60		19	0.052	0.10	0.0070	0.34	0.10	0.033		140	13	18	<3.0
18411	mineral	1800	63	37		9.5	0.068	0.12	0.0079	0.40	0.12	0.043		140	12	17	<3.0

SOIL PROFILE INFORMATION

Horizon Depth (cm)

surface 0



10

Site: Mill of Kintail Conservation Area

Location Code: 4001219

UTM: 18T 401150 5010800

Landform: shallow till and rock ridges

Slope: gently sloping

Date: 81/08/14

Vegetation: beech, maple

Comments: shallow pockets of soil

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18185	surface	0-10	10YR 3/2	55	27	18	5.3	4.5	2.0	1.7			<3.0		1.8
18377	surface	0-10	10YR 3/2	57	32	10	5.2	4.5	3.0	1.8			<3.0		2.0

SOIL PROFILE INFORMATION (cont'd.)

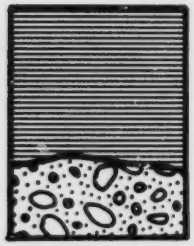
Site: Mill of Kintail Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18185	surface	1100	170	87	31	7.3	0.24	0.14	0.0080	0.80	0.16	0.014		44	5.6	8.4	3.7
18377	surface	1100	150	78	30	7.3	0.29	0.10	0.0073	0.81	0.16	0.014		39	4.6	8.2	4.6

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0



10

Site: Rideau Conservation Authority (Hornung Property)

Location Code: 4001220

UTM: 18T 419800 4982300

Landform: limestone plain

Slope: level

Date: 81/08/13

Vegetation: cedars, moss

Comments: bedrock near surface

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18184	surface	0-10	10YR 2/1	81	5.0	14	6.6	6.0	5.0	1.9			<3.0		0.43
18183	surface	0-10	10YR 2/1	81	5.0	14	6.7	5.9	6.0	1.8			<3.0		0.52

SOIL PROFILE INFORMATION (cont'd.)

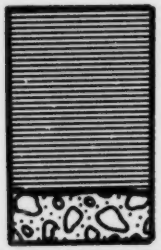
Site: Rideau Conservation Authority (Hornung property)

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18184	surface	390	290	69		4.5	0.11	0.095	0.070	0.49	0.15	0.13	<1.0	53	5.6	2.8	21
18183	surface	160	200	42		2.5	0.12	0.094	0.075	0.54	0.15	0.18	<1.0	59	7.0	5.3	22

SOIL PROFILE INFORMATION

Horizon

surface



Depth (cm)

0

15

Site: Rideau Conservation Authority, Naftel Property

Location Code: 4001221

UTM: 18T 439800 4967250

Landform: limestone plain

Slope: level

Date: 81/08/13

Vegetation: cedars, grasses

Comments: depth to limestone bedrock 20 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18361	surface	0-15	5YR 2.5/2	50	27	23	6.5	6.0	5.0	4.0			<3.0		0.37
18360	surface	0-15	5YR 2.5/2	56	20	24	7.1	6.5	4.0	3.9			<3.0		0.36

SOIL PROFILE INFORMATION (cont'd.)

Site: Rideau Conservation Authority (Naftel Property)

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18361	surface	2000	430	65		14	0.33	0.17	0.054	1.2	0.28	0.11	<1.0	53	11	11	22
18360	surface	1400	310	49		9.7	0.40	0.18	0.039	1.2	0.33	0.086	<1.0	56	12	11	23

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

surface | 0

10

Site: Eloida Lake, Cataraqui Conservation Authority

Location Code: 4001222

UTM: 18T 422850 4945450

Landform: limestone plain

Slope: level

Date: 81/08/13

Vegetation: maple, ironwood, grasses

Comments: depth to limestone bedrock 10 cm

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18209	surface	0-10	10YR 3/1	51	24	25	7.5	7.2	5.0	3.7					0.11
18108	surface	0-10	10YR 3/1	54	19	27	7.5	7.2	6.0	3.4					0.12

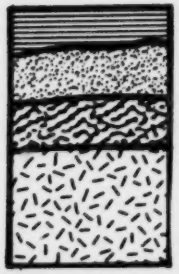
SOIL PROFILE INFORMATION (cont'd.)

Site: Eloida Lake, Cataraqui Conservation Authority

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18209	surface	3000	480	79		19	0.16	0.10	0.048	1.1	0.18	0.12	9.0	71	13	8.4	21
18108	surface	2000	560	56		15	0.17	0.11	0.047	1.0	0.19	0.12	7.0	62	11	7.6	16

SOIL PROFILE INFORMATION

Horizon Depth (cm)



Site: Driftwood Provincial Park

Location Code: 4001223

UTM: 18T 280800 5199200

Landform: sand plain

Slope: level

Date: 81/07/31

Vegetation: pine, ferns

Comments: thick (7cm) pine needle litter layer

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18347	surface	0-15	10YR 3/4	83	17	<1.0	4.8	4.1	2.0	1.0			20		11
18346	surface	0-15	10YR 3/4	84	12	3.0	4.9	4.1	2.0	1.0			23		11
18345	mineral	15-30	5YR 5/8	91	7.0	2.0	5.4	4.6	1.0	0.60			24		2.9
18344	mineral	15-30	5YR 5/8	92	8.0	<1.0	5.5	4.7	1.0	0.50			20		2
18343	mineral	30-40	7.5YR 5/8	92	6.0	2.0	5.5	4.7	1.0	0.30			10		1.5
18342	mineral	30-40	7.5YR 5/8	95	4.0	1.0	5.7	4.7	1.0	0.20			8.0		1.3
18341	mineral	40-60	10YR 6/6	87	12	1.0	5.8	4.8	<0.50	0.20			<3.0		0.83
18340	mineral	40-60	10YR 6/6	92	7.0	<1.0	5.6	4.8	<0.50	0.20			4.0		1.1

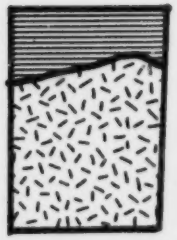
SOIL PROFILE INFORMATION (cont'd.)

Site: Driftwood Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.)/100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18347	surface	110	15	29	74	1.5	0.22	0.16	0.0070	0.54	0.33	0.012		30	3.2	6.2	<3.0
18346	surface	86	13	23	69	1.3	0.20	0.20	0.0076	0.65	0.36	0.014		34	3.7	7.1	<3.0
18345	mineral	64	7	14	13	0.54	0.20	0.27	0.0027	0.88	0.71	0.0069		46	4.2	10	<3.0
18344	mineral	68	7	14	10	0.53	0.14	0.21	0.0016	0.72	0.61	0.0036		46	4.2	12	<3.0
18343	mineral	34	4	12	9.0	<0.50	0.072	0.18	0.00050	0.51	0.40	0.0017		37	6.2	14	<3.0
18342	mineral	26	4	9.0	7.0	<0.50	0.060	0.14	0.00060	0.45	0.35	0.0021		31	5.7	15	<3.0
18341	mineral	34	5	21	6.0	<0.50	0.040	0.080	0.0013	0.20	0.14	0.0036	<1.0	15	8.2	12	<3.0
18340	mineral	30	6	22	4.0	<0.50	0.050	0.089	0.0016	0.22	0.15	0.0031	<1.0	14	6.6	11	<3.0

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

0
17
45
55

Site: Sager Conservation Area

Location Code: 4001229

UTM: 18T 296800 4903700

Landform: sand plain

Slope: level

Date: 81/07/27

Vegetation: pine, oak, poplar, grasses

Comments: depth to bedrock 55 cm, Lake Iroquois shoreline

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18313	surface	0-17	10YR 3/6	90	7.0	3.0	5.1	4.3	1.0	0.50			25		4.2
18312	surface	0-17	10YR 3/6	90	7.0	3.0	5.0	4.3	1.0	0.50			25		4.6
18311	mineral	17-45	10YR 5/8	85	6.0	10	5.6	4.7	1.0	0.30			13		0.63
18310	mineral	17-45	10YR 5/8	89	6.0	5.0	5.5	4.6	1.0	0.20			19		0.65
18309	mineral	45-55	10YR 6/8	86	6.0	7.0	5.9	5.0	1.0	0.20			12		0.19
18308	mineral	45-55	10YR 6/8	89	4.0	7.0	5.9	5.0	<0.50	0.20			9.0		0.27

SOIL PROFILE INFORMATION (cont'd.)

Site: Sager Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18313	surface	64	8.0	28	31	0.76	0.11	0.21	0.021	0.71	0.25	0.064		48	4.2	6.6	7.6
18312	surface	51	6.0	24	32	0.68	0.11	0.19	0.019	0.69	0.24	0.065		45	3.7	6.5	5.0
18311	mineral	68	6.0	8.0	4.0	<0.50	0.11	0.16	0.0038	0.68	0.18	0.013		31	3.7	8.9	3.9
18310	mineral	64	6.0	8.0	4.0	<0.50	0.098	0.16	0.0026	0.69	0.20	0.012		29	3.7	6.7	<3.0
18309	mineral	85	6.0	16	4.0	0.55	0.065	0.11	0.0024	0.66	0.17	0.0098	<1.0	29	7.2	9.6	4.6
18308	mineral	64	3.0	10	<2.3	<0.50	0.056	0.10	0.0013	0.64	0.16	0.0069		27	7.2	9.5	4.0

SOIL PROFILE INFORMATION

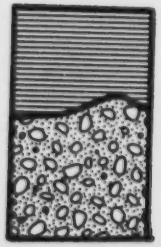
Horizon

surface

Depth (cm)

0

10



Site: North Fredericksburg Conservation Area

Date: 81/07/28

Location Code: 4001231

UTM: 18T 350350 4900750

Vegetation: elm, maple

Landform: limestone plain

Comments: exceedingly stoney at 15 cm, Not sampled below 10 cm.

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18315	surface	0-10	10YR 3/1	70	12	18	7.1	6.6	4.0	2.9			<3.0		0.10
18314	surface	0-10	10YR 3/1	70	11	20	7.0	6.6	7.0	3.1			<3.0		<0.080

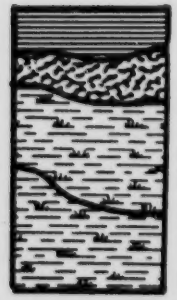
SOIL PROFILE INFORMATION (cont'd.)

Site: North Fredericksburg Conservation Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18315	surface	3000	88	56		16	0.20	0.14	0.028	1.2	0.22	0.038	<1.0	88	9.8	15	25
18314	surface	2400	87	58		15	0.20	0.14	0.028	1.2	0.23	0.040	<1.0	94	10	16	27

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Raison River Provincial Park

Location Code: 4001232

UTM: 18T 537800 4997250

Landform: clay plain

Slope: level

Date: 81/07/29

Parent Material: lacustrine clay

Vegetation: hemlock, beech, ferns

Comments: distinct mottles at 35 - 55 cm (7.5YR 6/6), and at 55 - 60 cm (5YR 5/6), some stones at 55 cm mostly shale, 0 - 5 cm not sampled

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18324	surface	5-20	10YR 2/2	27	53	21	4.9	4.4	3.0	7.6			44		6.9
18323	surface	5-20	10YR 2/2	23	56	21	5.1	4.5	3.0	4.8			47		6.8
18322	mineral	20-30	7.5YR 3/2	21	67	12	5.2	4.6	2.0	1.8			14		4.9
18321	mineral	20-30	7.5YR 3/2	23	68	9.0	5.5	4.7	1.0	1.1			7.0		3.1
18319	mineral	30-35	7.5YR 5/6	37	61	2.0	5.7	4.9	1.0	0.20			<3.0		1.1
18320	mineral	35-55	10YR 6/1	32	38	30	6.2	5.4	1.0	<0.10			5.0		<0.080
18318	mineral	35-55	10YR 6/1	35	35	30	6.2	5.3	<0.50	<0.10			6.0		0.12
18317	mineral	55-60	10YR 5/1	11	40	50	6.3	5.5	<0.50	0.30			5.0		<0.080
18316	mineral	55-60	10YR 5/1	12	40	48	6.3	5.4	1.0	0.40			5.0		<0.080

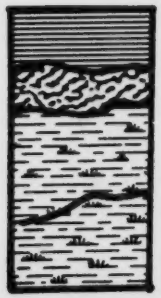
SOIL PROFILE INFORMATION (cont'd.)

Site: Raison River Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
18324	surface	1000	180	160	64	8.0	0.080	0.21	<0.00050	0.12	0.21	0.00060		36	4.1	7.0	19
18323	surface	780	140	120	75	6.0	0.088	0.22	<0.00070	0.11	0.25	0.00070		38	3.2	6.4	10
18322	mineral	310	58	31	60	2.7	0.099	0.29	<0.00020	0.16	0.30	0.00090		50	1.8	8.2	<3.0
18321	mineral	250	48	11	34	2.0	0.13	0.22	0.00020	0.34	0.22	0.0010		47	1.5	10	<3.0
18319	mineral	140	39	5	<4.5	1.1	0.12	0.057	0.00060	0.54	0.092	0.0017		28	2.0	8.6	<3.0
18320	mineral	1200	410	61	<4.5	9.4	0.068	0.048	0.0016	0.53	0.062	0.016	<1.0	35	9.6	19	<3.0
18318	mineral	1300	410	59	<4.5	10	0.065	0.045	0.0013	0.54	0.065	0.017	<1.0	32	9.7	18	<3.0
18317	mineral	2500	2500	130		33	0.11	0.091	0.0051	0.60	0.10	0.023	<1.0	56	17	29	4.4
18316	mineral	2400	2500	130	<4.5	33	0.11	0.095	0.0051	0.67	0.11	0.027	<1.0	51	17	28	4.5

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Charlottenburgh Provincial Park

Location Code: 4001233

UTM: 18T 536800 4992550

Landform: clay plain

Slope: level

Date: 81/07/29

Vegetation: pine, beech, maple

Comments: faint mottling from 20-60 cm, some large stones throughout profile

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18332	surface	0-20	10YR 3/2	28	48	25	6.2	5.6	2.0	2.7			<3.0		0.50
18331	surface	0-20	10YR 3/2	28	48	25	6.1	5.6	2.0	2.3			<3.0		0.18
18330	mineral	20-35	10YR 3/4	32	49	19	6.6	6.0	1.0	1.6			<3.0		<0.080
18329	mineral	20-35	10YR 3/4	38	40	22	6.7	6.1	1.0	1.4			<3.0		0.092
18328	mineral	35-45	2.5YR 5/4	50	35	15	7.1	6.4	<0.50	0.30			<3.0		0.97
18327	mineral	35-45	2.5YR 5/4	52	25	23	7.0	6.3	1.0	0.50			<3.0		0.23
18326	mineral	45-60	10YR 4/4	62	19	19	7.2	6.4	1.0	0.50			<3.0		<0.080
18325	mineral	45-60	10YR 4/4	63	16	20	7.1	6.4	1.0	0.50			<3.0		<0.080

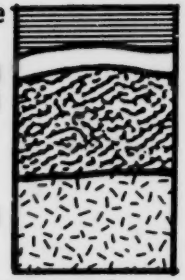
SOIL PROFILE INFORMATION (cont'd.)

Site: Charlottenburgh Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18332	surface	1600	200	39		9.8	0.20	0.13	0.012	0.63	0.17	0.023	<1.0	42	6.2	11	<3.0
18331	surface	1600	180	33		9.6	0.19	0.12	0.012	0.62	0.16	0.023	<1.0	39	6.2	10	<3.3
18330	mineral	1300	140	19		7.8	0.20	0.12	0.010	0.60	0.16	0.025	<1.0	38	5.7	10	<3.0
18329	mineral	1400	160	19		8.4	0.20	0.12	0.012	0.64	0.15	0.031	<1.0	39	6.7	11	<3.0
18328	mineral	1000	140	19		6.1	0.058	0.033	0.0019	0.29	0.056	0.012	<1.0	19	3.2	9	<3.0
18327	mineral	940	190	35		6.3	0.089	0.048	0.0030	0.57	0.098	0.029	<1.0	29	8.2	15	<3.0
18326	mineral	1300	260	47		8.8	0.092	0.048	0.0030	0.69	0.11	0.035	<1.0	35	10	17	<3.0
18325	mineral	1400	250	57		9.3	0.092	0.048	0.0028	0.56	0.12	0.043	<1.0	38	12	19	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Site: Fitzroy Provincial Park

Location Code: 4001234

UTM: 18T 404550 5037650

Landform: sand plain

Slope: moderate slopes

Date: 81/07/30

Vegetation: pine, elm, poplar, ferns

Comments: Organic contamination in sampling bleached horizon at 17-20 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
18338	surface	0-17	10YR 4/2	91	6.0	3.0	5.4	4.7	1.0	0.60			35		1.9
18337	surface	0-17	10YR 4/2	86	10	4.0	4.9	4.1	1.0	0.80			45		5.3
18339	mineral	17-20	10YR 5/1	91	5.0	4.0	4.6	3.9	1.0	0.80			45		7.8
18336	mineral	20-45	10YR 7/8	93	4.0	3.0	6.0	5.1	<0.50	0.30			19		0.34
18335	mineral	20-45	10YR 7/8	94	3.0	3.0	6.0	5.1	<0.50	0.20			19		0.43
18334	mineral	45-60	2.5Y 7/4	97	2.0	<1.0	6.1	5.3	<0.50	<0.10			10		0.25
18333	mineral	45-60	2.5Y 7/4	96	2.0	2.0	6.2	5.3	<0.50	<0.10			12		0.19

SOIL PROFILE INFORMATION (cont'd.)

Site: Fitzroy Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
18338	surface	450	35	54	10	2.8	0.13	0.085	0.0046	0.35	0.11	0.0072		44	2.0	3.5	<3.0
18337	surface	300	29	53	48	2.4	0.12	0.074	0.0036	0.34	0.10	0.0062		41	1.7	3.4	<3.0
18339	mineral	230	25	74	98	2.5	0.14	0.093	0.0038	0.31	0.10	0.0043		40	2.1	4.0	<3.0
18336	mineral	130	13	26	<2.3	0.83	0.062	0.074	0.00030	0.34	0.18	0.0010	<1.0	22	3.9	7.7	<3.0
18335	mineral	100	7.0	20	3.0	0.64	0.061	0.069	0.00020	0.30	0.15	0.0010	<1.0	18	3.5	8.4	<3.0
18334	mineral	85	6.0	24	<2.3	0.54	0.021	0.030	0.00030	0.22	0.089	0.0029	<1.0	17	3.3	7.7	<3.0
18333	mineral	85	3.0	20	<2.3	0.52	0.039	0.045	0.00030	0.23	0.098	0.0019	<1.0	17	2.7	8.9	<3.0

Volume

3

ISBN 0-7729-0459-6(v.3)

ONTARIO SOIL BASELINE SURVEY
- ANALYTICAL DATA 1980-1981 -

VOLUME 3
ANALYTICAL DATA FOR NORTHERN ONTARIO

TERRESTRIAL EFFECTS PROGRAM
ACIDIC PRECIPITATION IN ONTARIO STUDY

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T. Spires, Northern Terrestrial Consultants
P. Barclay, Lakehead University

ONTARIO MINISTRY OF THE ENVIRONMENT
NOVEMBER, 1984

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(VOLUME 3)

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ACKNOWLEDGEMENTS

S.N. Linzon, Chairman of the A.P.I.O.S. Terrestrial Effects Working Group, originated the concept of the soil baseline program and has guided its development.

During 1980 and 1981, the collection of soil samples throughout Ontario involved a number of people. This work was accomplished under the co-ordination of M.A. Griffith (Southern Ontario), T. Spires (Northeastern Region) and W. Carswell (Northwestern Region). The development of an A.P.I.O.S. soils' laboratory and the chemical analyses of all soil samples were undertaken by the Laboratory Services Branch under the direction of A. Neary. The tables that form the bulk of Volumes 2 and 3 were typed by 2001 Word Processing Services .

Volume 1 of this report was written by M. A. Griffith, A.P.I.O.S., Soil Specialist, Phytotoxicology Section, Air Resources Branch. T. Spires of Northern Terrestrial Consultants and P. Barclay, Lakehead University provided most of the information regarding Northeastern and Northwestern Ontario, respectively. All members of the Terrestrial Effects Working Group's Technical Sub-committee assisted in various editing stages of the report, principally D. Griffin, W. McIlveen, D. Dimma, A. Neary and T. Spires.

SUMMARY

The soil baseline program began in 1980 and is part of the Ministry of Environment's Acidic Precipitation in Ontario Study (A.P.I.O.S.). The major objectives of the soil baseline program and methods used to sample soils are provided in Volume 1. In addition, the glacial history of Ontario, some theories of soil development, and the effect of acidic precipitation on soils are briefly outlined in Volume 1. Over 300 locations were sampled in 1980 and 1981 throughout the province. A reliable, current and uniform data base for soils across Ontario now exists and is presented in Volumes 2 (Analytical Data for Southern Ontario) and 3 (Analytical Data for Northern Ontario) of this report. This data base is being used by A.P.I.O.S. researchers to produce a map which will show the relative sensitivities of Ontario soils to acidic deposition. Resampling baseline soil profiles over an extended period will also provide a means of monitoring trends in soil chemistry due to environmental stress.

This report is mainly a presentation of field and laboratory soil information (Volumes 2 and 3). Each baseline site has been given a 6 digit location code number. Within each region, sites are presented in ascending order based on location code number. The numbers which appear on Maps 3 to 8 in Volume 1 correspond to the last 3 digits of the location code. Soil samples were analyzed at the Ministry's central laboratory in Toronto for pH, texture, extractable iron, aluminum and manganese, inorganic and organic carbon, major cations (NaCl exchangeable), CEC (sum of cations measured), anions, and trace metals (HNO_3 - $HClO_4$ extractable). Further description of the analytical methods can be found in Volume 1 and in the "Procedures Manual Terrestrial Effects, Acid Precipitation in Ontario Study" (A.P.I.O.S.) Report No. 007/83 Ontario Ministry of the Environment. Data are reported to two significant figures. For the 14000, 17000 and 18000 series samples, organic carbon values were rounded to the nearest percent. This has since changed to provide better data at low levels.

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DD/mb/PH5-9

NORTHEASTERN REGION

Bedrock Geology

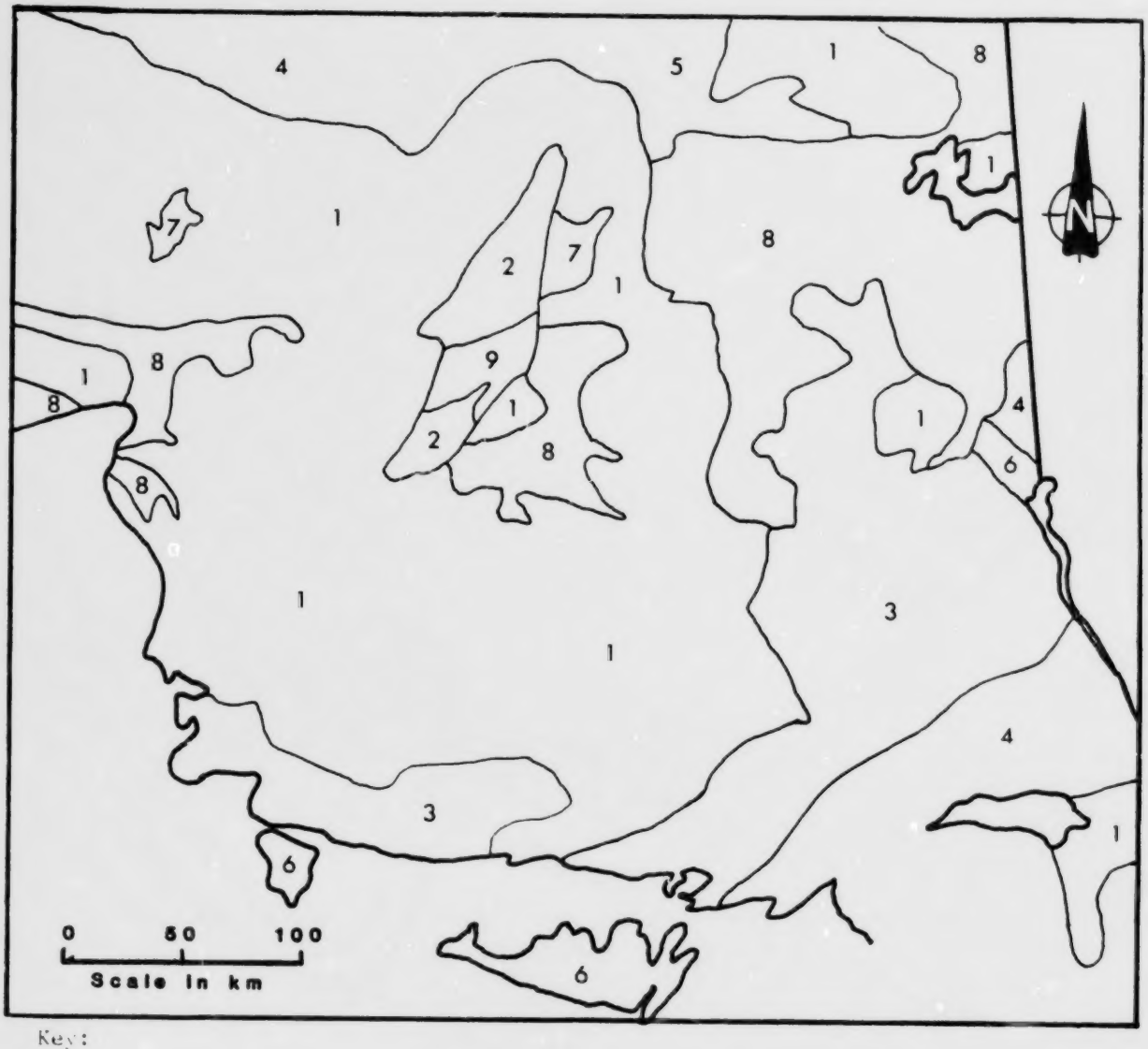
Bedrock geology has a predominant influence on the mineralogy and chemical properties of the soils in Northeastern Ontario. The area consists mainly of Precambrian rocks, most commonly felsic igneous types, such as granite. Mafic volcanic rocks are common in the Timmins - Kirkland Lake area and around both Sultan and Wawa. Precambrian sedimentary deposits predominate in the eastern part of the area and along the north shore of Lake Huron (Figure 1). These rocks offer little buffering capacity to acid precipitation inputs.

The area around James Bay consists of Ordovician and Silurian limestones which have had considerable influence on the soil chemistry of Northeastern Ontario. The calcareous soils of the Great Northern Clay Belt are derived from this limestone and extend much further south than the bedrock itself. Limestone bedrock is also found on Manitoulin Island, in the New Liskeard area and to a much lesser extent, around Espanola and Onaping Lake. Acidic inputs are well buffered in these areas.

Glacial History and Surficial Geology

As postulated by Boisonneau (1966, 1968), the last movement of ice over Northeastern Ontario consisted of two lobes (Figure 2). The western lobe fanned out in a southerly direction but was partially cut off by an eastern lobe which moved in a southwesterly direction.

As the ice retreated over 11,000 years ago, the areas around Sudbury, North Bay, and Sault Ste. Marie were the first to be exposed. The ice front then remained stationary, creating the Whiskey Lake moraine (Figure 2) and glacial Lake Algonquin (in the upper Great Lakes basin). In this lake the lacustrine areas along the north shore of Lake Huron and at Sudbury, North Bay and St. Charles were formed. The ice front then retreated to the Cartier I morainic belt at which time a number of deltas were formed (eg. northeast of Thessalon and near Capreol).



Key:

1. Felsic Igneous and Metamorphic
2. Mafic Metaigneous
3. Sediments
4. Metasediments
5. Metasediments and Metavolcanics
6. Limestone
7. Mafic Metavolcanic
8. Mafic Metavolcanic and Felsic Metavolcanic
9. Anorthosite

Figure 1. Bedrock Geology of Northeastern Ontario.

(from Ontario Geological Compilation Series, Ministry of Natural Resources)

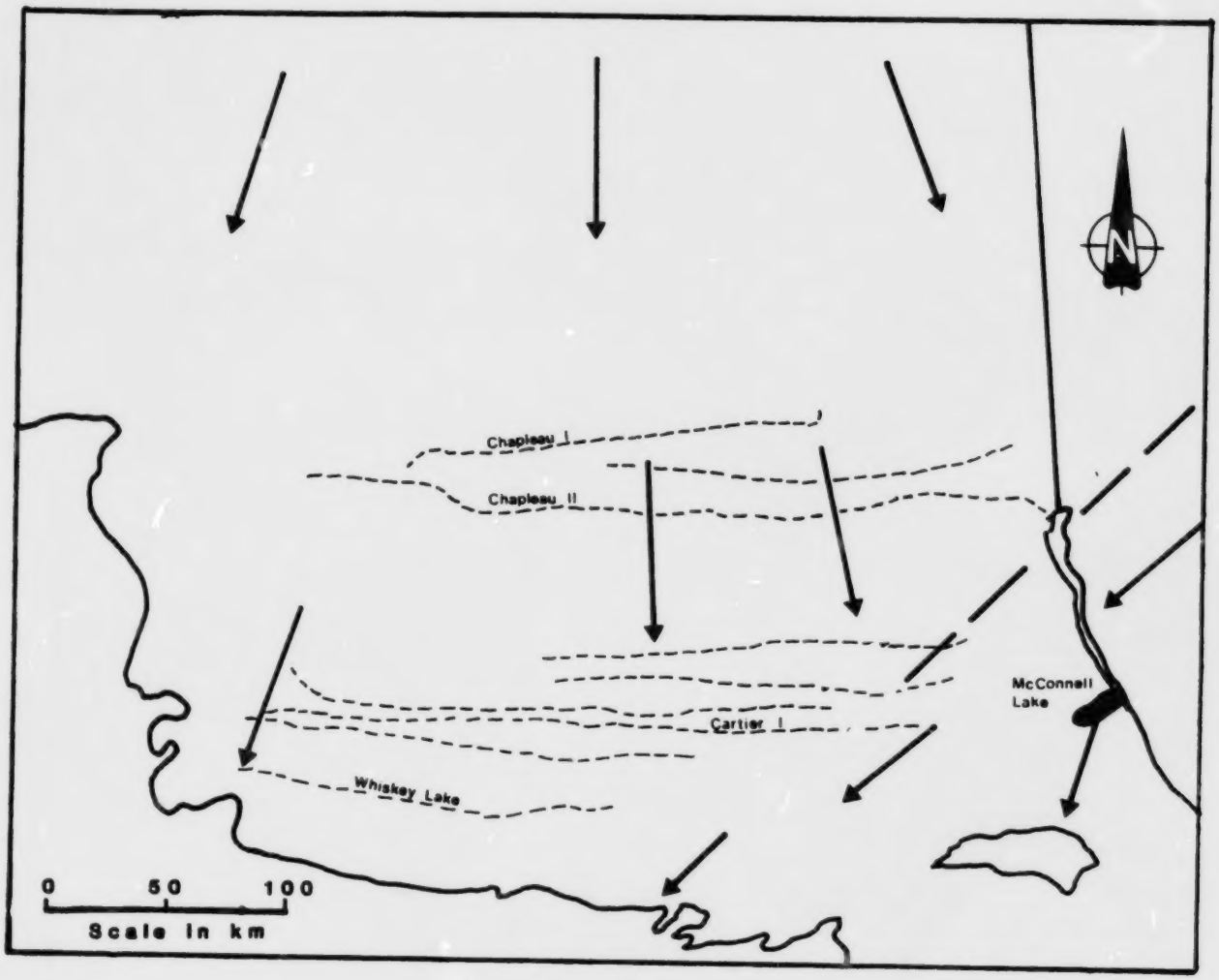


Figure 2. Direction of Ice Movements and Morainic Belts in Northeastern Ontario. (from Boisonneau, 1968)

The stationary ice front along the Cartier I morainic belt caused the formation of the McConnell Lake moraine near the south end of the present Lake Timiskaming, and the blocking of the Timiskaming Valley resulted in a large glacial lake between the ice, the moraine and the uplands to the northeast. This lake is known as glacial Lake Barlow-Ojibway. In this lake the extensive lacustrine clays and silts, which comprise the Northern Clay Belt, were deposited. The southern boundaries of the lake followed the line separating the lacustrine deposits from the sandy till. At the western boundary, near Hornepayne, ice remained, blocking meltwater flow.

As the formation of Lake Barlow-Ojibway occurred the ice front was retreating. It became stationary at the Chapleau I moraine forming a shallow lake known as Lake Sultan, in which lacustrine sands were deposited. The northern part of this lake was overriden by a readvance to the Chapleau II moraine where two small lakes were formed, lakes Ostrom and Ogilvie, to the east of Lake Sultan bearing lacustrine sand deposits.

The Superior basin was occupied by Lake Minong. Materials deposited within this lake are resticted to narrow areas along the shores of Lake Superior.

A major ice readvance (Cochrane readvance) occurred in the northern part of Lake Barlow-Ojibway depositing clay till over the lacustrine clays and eskers (Figure 3). Moraines in this area are capped with clay till. The ice must then have retreated rapidly and the waters drained northwards since only minor lacustrine deposits overlie the clay till. This retreat is believed to have occurred between 6,000 and 7,000 years ago. Figure 3 indicates the present surficial geology.

Soils in Northeastern Ontario

A shallow, sandy, glacial till is the predominant surficial deposit in the southern part of Northeastern Ontario. Bedrock exposure is common. The soils are usually Orthic Humoferric Podzols or Eluviated Dystric Brunisols both of which occur typically in coarse to medium textured acidic parent materials.

In both types of soils, aluminum and iron, in conjunction with organic acids, are removed from the top part of the soil and redeposited further down the profile. Orthic Humo-Ferric Podzols usually have organic surface horizons

Key:

1. Moderately rolling thin till over bedrock with local morainic deposits and outwash.

2. Moderately rolling, thin till over bedrock and wave washed bedrock with local pockets of lacustrine deposits and outwash.

3. Moderately rolling wave washed bedrock with local pockets of lacustrine deposits.

4. Gently rolling lacustrine deposits and outwash.

5. Gently to moderately rolling lacustrine deposits with knolls of thin till over bedrock.

6. Gently to moderately rolling lacustrine deposits with wave washed bedrock knolls.

7. Outwash deltaic sand plains.

8. Moderately rolling till uplands with local pockets of lacustrine sediments.

9. Gently undulating lacustrine plains.

10. Gently to moderately rolling clay till plains.

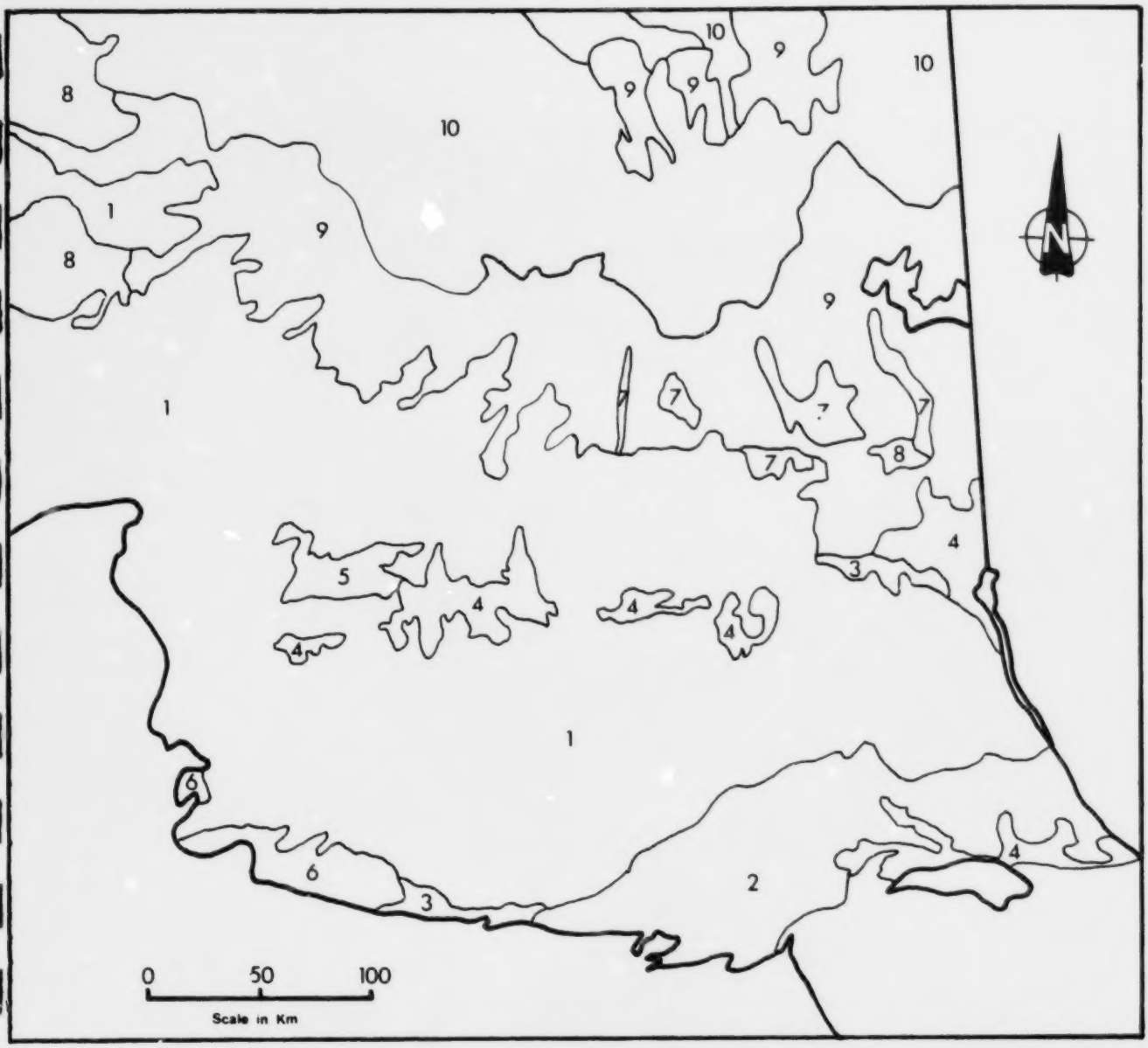


Figure 3. Surficial Geology of Northeastern Ontario.
(from Boisonneau, 1966, 1968)

(LFH) and a whitish or greyish eluvial horizon (Ae). This is underlain by a reddish-brown horizon (Bf), a result of the redeposited iron and organic material. This layer gradually merges into the more yellow C or parent material horizon (Figure 4). Eluviated Dystric Brunisols (Figure 5) differ from Orthic Humo-Ferric Podzols only in their degree of development, the movement of iron, aluminum and organic acids having occurred to a lesser extent.

From Sault Ste. Marie along the north shore of Lake Huron to Lake Nipissing and including areas around Sudbury, many lacustrine silt and clay deposits occur. Soils developed on these types of deposits are usually poorly or imperfectly drained and are classified as Orthic Humic Gleysols, or Gleyed Dystric Brunisols.

Gleysolic soils develop in areas that are saturated with water for long periods of time. Reduced iron in the soils gives a blue grey colour to the soil. Localized iron oxidization often imparts reddish colourations known as mottles within the soil. This reduction-oxidation process is known as gleying. Orthic Humic Gleysols (Figure 6) usually have a humus enriched surface horizon, (Ah) followed by a gleyed horizon (Bg) and the original parent material (Cg). Orthic Gleysols (Figure 7) are similar except that the surface horizons are usually organic (LFH) and the Ah horizon, if present, is less than 10 cm thick. Gleyed Dystric Brunisols are similar to the gleysol but the reduction and oxidation processes are less marked or occur at a greater depth in the soil profile. The surface horizons are usually organic (LFH) followed by a faint to distinct mottled mineral horizon (Bmgj) and the parent material (Cg).

In the northern section of Northeastern Ontario substantial areas of lacustrine clay deposits and varved clays occur. Further north these lacustrine clays are overlain by clay tills (Figure 3). These deposits together comprise the Northern Clay Belt and are extremely rich in carbonates. The soils of the northern clay belt have not been sampled in this study because their high content of carbonates enable them to be extremely well buffered against acidic inputs. More detailed work in this area has been carried out by Mr. K. Jones, Ontario Institute of Pedology, Guelph.

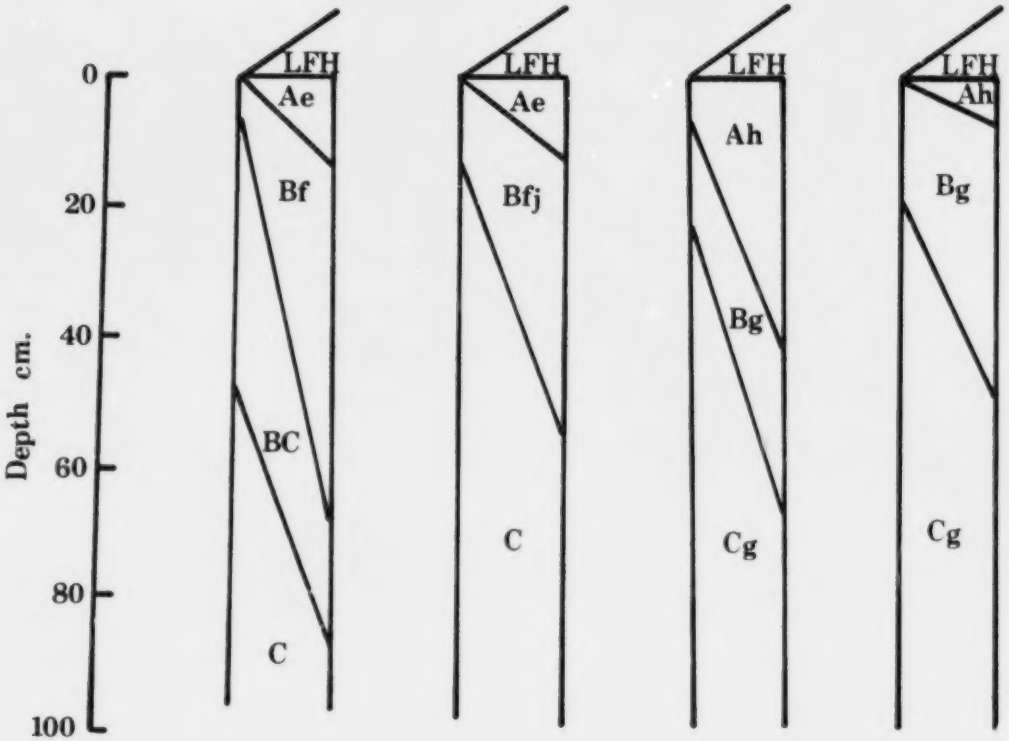


Figure 4 Figure 5 Figure 6 Figure 7

Figure 4. Typical horizon sequence of an Orthic Humo-Ferric Podzol.

Figure 5. Typical horizon sequence of an Eluviated Dystric Brunisol.

Figure 6. Typical horizon sequence of an Orthic Humic Gleysol.

Figure 7. Typical horizon sequence of an Orthic Gleysol.

(Figures 4 - 7 from Canadian System of Soil Classification, 1978.)

Sampling Locations

Baseline sampling was done along three transects (Figure 8). The first extends northeast from Sudbury in the direction of the prevailing winds. Soils along this transect will have had historically high acidic inputs from the Sudbury mining operations with those closest to Sudbury expected to have the highest inputs. Two north-south transects were sampled, one extending from Massey to the area north of Ramsey and the other from Thessalon to Missinabi Lake. Along each transect sampling was restricted to sites having birch or poplar canopies where the soils were developed on glacial till, outwash or lacustrine sands.

As part of the overall soils study for the province of Ontario several soils were sampled within a 20 km radius of each of the acidic precipitation collectors and at experimental sites currently being monitored by the Ministry of the Environment.

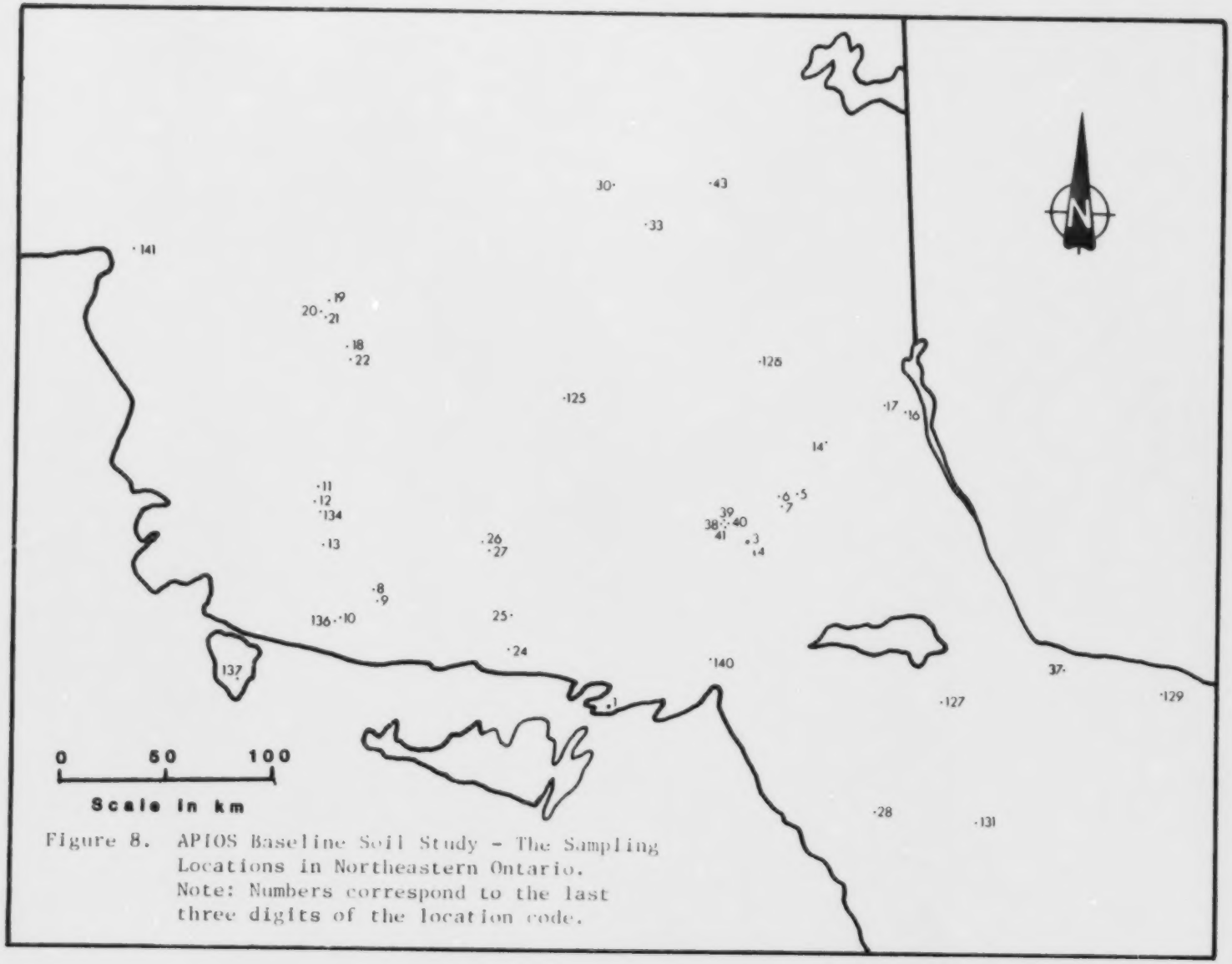


Figure 8. APIOS Baseline Soil Study - The Sampling Locations in Northeastern Ontario. Note: Numbers correspond to the last three digits of the location code.

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SOIL BASELINE ANALYTICAL DATA, 1980-1981

NORTHEASTERN REGION

SOIL PROFILE INFORMATION

Horizon

Depth (cm)

Ah 0 - 4

Ae 4 - 8

Bm 8 - 30

Bf 30 - 46

46+

Site: Killarney

Location Code: 5017001

UTM: 17T 04653 50938

Classification: Orthic Humo Ferric Podzol

Landform: moraine

Slope: level

Date: 81/05

Parent Material: till

Vegetation: maple, balsam fir, aspen

Comments: bedrock at 46 cm

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14798	Ah	0 - 4	7.5YR 3/0, 2/0m	78	12	9.0	4.8	3.8	16	3.9			20		5.1
14799	Ae	4 - 8	7.5YR 6/2, 5/2m	89	7.0	4.0	5.0	4.0	1.0	0.50			4.0		4.0
14800	Bm	8 - 30	7.5YR 5/6, 4/6m	96	<1.0	4.0	5.5	4.6	1.0	0.70			<3.0		3.6
14801	Bf	30 - 46	7.5YR 4/6, 3/6m	94	1.0	4.0	5.1	4.5	1.0	0.80			<3.0		4.6

SOIL PROFILE INFORMATION (cont'd.)

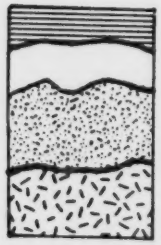
Site: Killarney

Classification: Orthic Humo Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14798	Ah	870	140	89	62	6.4	0.11	0.044	0.011	0.27	0.074	0.010		73	59	46	98
14799	Ae	87	28	14	72	1.5	0.059	0.022	0.0017	0.28	0.042	0.0012		18	18	7.2	3.4
14800	Bm	35	9.0	2.0	22	0.5	0.13	0.092	0.0011	0.38	0.16	0.0026		25	28	13	<3.0
14801	Bf	110	18	2.0	53	1.3	0.23	0.22	0.00060	0.45	0.29	0.0016		29	21	15	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	6 - 0
Ae	0 - 8
Bfj	8 - 38
C	38+



Site: Kukagami Road

Location Code: 5017003

UTM: 17T 05284 51/65

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/05

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14802	LFH	6 - 0	10YR 3/1, 2/1m				4.3	3.7	23	8.6			38		12
14803	Ae	0 - 8	10YR 7/1, 6/1m	53	42	5.0	4.4	3.6	<0.50	0.30			3.0		13
14804	Bfj	8 - 38	10YR 6/4, 5/4m	68	28	4.0	5.0	4.7	1.0	0.40			4.0		3.9
14805	C	38+	10YR 7/4, 6/4m	81	16	3.0	5.5	4.9	<0.50	<0.10			<3.0		0.45

SOIL PROFILE INFORMATION (cont'd.)

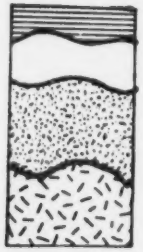
Site: Kukagami Road

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14802	LFH	1100	160	200	40	7.6	0.17	0.047	0.027	0.57	0.079	0.024		100	380	500	120
14803	Ae	26	13	7.0	160	2.0	0.015	0.022	0.00070	0.066	0.031	0.0016		11	15	4.1	5.3
14804	Bfj	26	8.0	5.0	33	0.6	0.16	0.29	0.0028	0.84	0.52	0.0052		61	11	23	3.9
14805	C	15	4.0	4.0	3.0	0.2	0.028	0.066	0.0020	0.20	0.12	0.0057		18	13	16	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0 - 4
Ae	4 - 6
Bfj	6 - 36
C	36+



Site: Kukagami Rd.

Location Code: 5017004

UTM: 17T 05295 51708

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/05

Parent Material: glacial/fluvial deposit

Vegetation: white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14806	Ah	0 - 4	10YR 3/1, 2/1m	66	25	9.0	5.6	4.5	10	4.4			65		4.1
14807	Ae	4 - 6	10YR 7/2, 6/2m	69	26	5.0	4.4	3.7	<0.50	0.60			24		21
14808	Bfj	6 - 36	10YR 6/4, 4/4m	76	20	4.0	5.0	4.6	2.0	0.70			<3.0		4.4
14809	C	36+	2.5YR 6/4, 5/4m	92	<1.0	8.0	5.5	5.1	<0.50	<0.10			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Kukagami Road

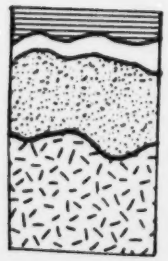
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14806	Ah	680	130	100	24	4.8	0.17	0.12	0.046	0.52	0.15	0.053		52	210	180	64
14807	Ae	24	10	15	140	1.8	0.013	0.015	0.0013	0.44	0.057	0.027		58	68	28	7.8
14808	Bfj	11	5.0	7.0	25	0.4	0.12	0.32	0.0079	1.0	0.71	0.018		75	22	39	<3.0
14809	C	11	3.0	2.0	2.0	0.1	0.011	0.030	0.0010	0.15	0.057	0.0028	<1.0	26	16	23	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Ah 0 - 4
Ae 4 - 6
Bfj 6 - 26
C 26+

Site: Emerald Lake

Location Code: 5017005

UTM: 17T 05529 51951

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/05

Parent Material: glacial/fluvial deposit

Vegetation: white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14810	Ah	0 - 4	10YR 3/1, 2/1m	42	39	19	5.3	4.4	13	4.1			19		7.3
14811	Ae	4 - 6	10YR 7/2, 6/2m	55	38	7.0	4.5	2.9	3.0	0.70			<3.0		22
14812	Bfj	6 - 26	10YR 6/4, 4/4m	79	16	4.0	4.9	4.5	2.0	1.5			<3.0		<0.080
14813	C	26+	10YR 7/4, 5/4m	97	<1.0	2.0	5.5	5.0	<0.50	0.10			<3.0		0.72

SOIL PROFILE INFORMATION (cont'd.)

Site: Emerald Lake

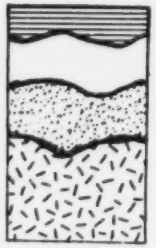
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Ditnionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14810	Ah	620	110	150	61	5.1	0.24	0.14	0.031	0.54	0.18	0.034		69	81	53	56
14811	Ae	71	15	11	290	3.7	0.20	0.071	0.0024	0.61	0.10	0.018		19	12	8.0	<3.0
14812	Bfj	28	5.0	6.0	29	0.5	0.22	0.28	0.0037	0.80	0.60	0.012		57	49	31	<3.0
14813	C	11	3.0	<1.7	4.0	0.1	0.030	0.064	0.0017	0.24	0.13	0.0066	<1.0	43	31	34	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



LFH 9 - 0

Ae 0 - 8

Bfj 8 - 23

C 23+

Site: Sturgeon River

Location Code: 5017006

UTM: 17T 05467 51929

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14814	LFH	9 - 0	10YR 3/2, 2/2m				4.4	4.0	30	15			120		20
14815	Ae	0 - 8	10YR 7/2, 6/2m	22	72	6.0	4.5	3.7	1.0	0.60			<3.0		10
14816	Bfj	8 - 23	10YR 6/6, 5/6m	24	72	4.0	5.3	4.8	1.0	1.0			<3.0		2.1
14817	C	23+	5Y 7/3, 6/3m	18	72	11	5.8	5.2	<0.50	0.20			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

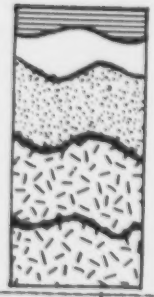
Site: Sturgeon River

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14814	LFH	1500	440	280	25	12	0.069	0.045	0.068	0.26	0.051	0.053		84	160	150	100
14815	Ae	37	10	13	110	1.5	0.092	0.031	0.0014	0.16	0.041	0.0031		8.4	12	2.5	4.4
14816	Bfj	110	13	7.0	20	0.9	0.20	0.27	0.0032	1.3	0.59	0.0094		24	18	18	<3.0
14817	C	37	5.0	<1.7	5.0	<0.3	0.027	0.090	0.0020	0.20	0.15	0.0061	<1.0	18	100	16	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



LFH 4 - 0
Ae 0 - 5
Bfj 5 - 17
BC 17 - 47
C 47+

Site: Sturgeon River

Location Code: 5017007

UTM: 17T 05468 51890

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: middle slope 5%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14818	LFH	4 - 0	10YR 3/2, 2/2m				4.9	4.2	24	15			76		15
14819	Ae	0 - 5	10YR 6/2, 5/2m	52	42	6.0	4.7	3.8	2.0	1.3			4.0		2.6
14820	Bfj	5 - 17	10YR 5/4, 4/4m	66	29	5.0	4.7	4.3	1.0	0.80			5.0		10
14821	BC	17 - 47	10YR 6/4, 5/4m	90	7.0	2.0	5.6	4.8	<0.50	0.30			<3.0		1.6
14822	C	47+	2.5Y 6/4, 5/4m	88	1.0	10	5.9	5.1	<0.50	0.20			<3.0		0.39

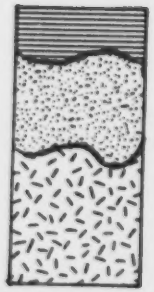
SOIL PROFILE INFORMATION (cont'd.)

Site: Sturgeon River

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14818	LFH	1200	460	240	15	10	0.14	0.077	0.15	0.34	0.092	0.13		170	150	160	91
14819	Ae	350	48	9.0	71	2.9	0.055	0.033	0.0017	0.16	0.041	0.0028		18	21	6.4	<3.0
14820	Bfj	140	18	4.0	100	2.0	0.20	0.20	0.0017	0.64	0.29	0.0053		20	16	11	<3.0
14821	BC	50	6.0	<1.7	8.0	0.4	0.11	0.094	0.0018	0.27	0.13	0.0050		18	6.5	13	<3.0
14822	C	50	5.0	3.0	3.0	0.3	0.068	0.056	0.0025	0.19	0.070	0.0054	<1.0	16	9.4	12	<3.0

SOIL PROFILE INFORMATION



Site: Little White River

Location Code: 5017008

UTM: 17T 03423 51555

Classification: Orthic Sombric Brunisol

Landform: outwash plain

Slope: level

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, (moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14823	Ahe	0 - 14	10YR 5/2, 3/2m	82	16	2.0	5.4	4.5	2.0	1.1			<3.0		1.0
14824	Bfj	14 - 36	10YR 5/4, 4/4m	85	11	4.0	5.6	5.0	1.0	0.90			<3.0		2.0
14825	C	36+	10YR 6/4, 5/4m	93	<1.0	7.0	5.9	5.1	<0.50	<0.10			<3.0		<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: Little White River

Classification: Orthic Sombric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14823	Ahe	220	32	14	28	1.7	0.17	0.19	0.016	0.48	0.22	0.022		44	12	4.0	8.0
14824	Bfj	64	6.0	4.0	8.0	0.5	0.19	0.19	0.0029	0.61	0.37	0.014	<1.0	35	41	8.1	<3.0
14825	C	20	4.0	2.0	<2.3	0.1	0.025	0.058	0.0015	0.21	0.085	0.0059	<1.0	32	16	10	5.8

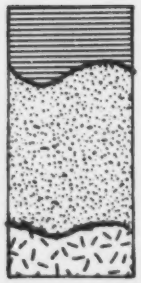
SOIL PROFILE INFORMATION

Horizon | Depth (cm)

Ahe 0 - 16

Bm 16 - 50

C 50+



Site: Little White River

Location Code: 5017009

UTM: 17T 03412 51534

Classification: Orthic Sombric Brunisol

Landform: outwash channel

Slope: mid-slope 8%

Date: 81/06

Parent Material: glacial/fluvial

Vegetation: aspen, balsam fir, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14826	Ahe	0 - 16	10YR 5/2, 3/2m	79	14	6.0	5.1	4.8	3.0	2.7			20		0.44
14827	Bm	16 - 50	10YR 5/4, 3/4m	92	4.0	4.0	5.3	4.7	1.0	0.40			23		1.4
14828	C	50+	2.5Y 6/4, 5/4m	89	7.0	5.0	5.8	4.9	<0.50	0.20			10		1.1

SOIL PROFILE INFORMATION (cont'd.)

Site: Little White River

Classification: Orthic Sombric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14826	Ahe	820	150	34	<4.5	5.5	0.23	0.079	0.020	0.39	0.092	0.020		51	27	7.7	14
14827	Bm	64	13	5.0	11	0.6	0.16	0.069	0.0037	0.40	0.14	0.010		27	20	7.0	7.6
14828	C	30	5.0	3.0	5.0	0.3	0.042	0.060	0.0013	0.25	0.17	0.0066		21	15	10	8.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0 - 5
Ae	5 - 10
Bm	10 - 65
C	65+

Site: Parkinson Township

Location Code: 5017010

UTM: 17T 03268 51426

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white spruce, white pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14829	Ah	0 - 5	10YR 4/1, 3/1m	83	10	7.0	5.8	4.9	3.0	2.1			38		2.7
14830	Ae	5 - 10	10YR 6/2, 5/2m	86	9.0	4.0	5.0	4.1	1.0	0.40			9.0		10
14831	Bm	10 - 65	10YR 5/4, 4/4m	90	7.0	3.0	5.5	4.9	1.0	0.70			<3.0		2.2
14832	C	65+	10YR 7/3, 6/3m	93	<1.0	7.0	6.0	5.2	<0.50	<0.10			17		0.38

SOIL PROFILE INFORMATION (cont'd.)

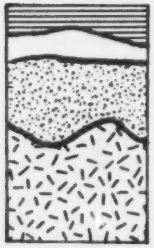
Site: Parkinson Twshp.

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14829	Ah	260	73	71	4	2.1	0.067	0.035	0.010	0.21	0.052	0.011		40	8.9	2.5	40
14830	Ae	20	8.0	6.0	70	1.0	0.12	0.073	0.0071	0.32	0.070	0.011		13	14	<2.0	<3.0
14831	Bm	42	6.0	3.0	9.0	0.4	0.14	0.16	0.0042	0.43	0.31	0.070		34	15	7.6	5.6
14832	C	28	3.0	<1.7	<2.3	0.2	0.018	0.038	0.00040	0.17	0.085	0.0040	<1.0	20	21	7.2	5.9

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	4 - 0
Ae	0 - 2
Bfj	2 - 25
C	25+



Site: Ranger Lake Road

Location Code: 5017011

UTM: 17T 03159 52031

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: lower slope 2%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: white birch, aspen

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14833	LFH	4 - 0	10YR 3/1, 2/1m				5.5	5.3	19	14			150		1.2
14834	Ae	0 - 2	10YR 6/2, 5/2m	64	30	4.0	5.0	4.1	1.0	1.0			28		4.0
14835	Bfj	2 - 25	10YR 5/6, 4/6m	60	36	4.0	5.5	4.8	2.0	1.0			<3.0		1.9
14836	C	25+	10YR 7/4, 6/4m	82	14	4.0	5.7	4.8	<0.50	0.20			<3.0		1.6

SOIL PROFILE INFORMATION (cont'd.)

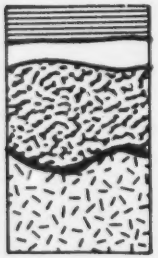
Site: Ranger Lake Road

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14833	LFH	1600	640	110	7.0	14	0.11	0.12	0.18	0.29	0.14	0.20	<1.0	180	65	11	100
14834	Ae	220	51	26	49	2.1	0.083	0.044	0.0014	0.29	0.050	0.0046		8.0	7.5	<2.0	<3.0
14835	Bfj	230	25	5.0	28	1.7	0.15	0.31	0.00030	0.85	0.55	0.0026		21	15	14	<3.0
14836	C	85	10	5.0	17	0.7	0.050	0.12	0.00040	0.27	0.12	0.0019		16	19	10	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



LFH 5 - 0
Ae 0 - 2
Bm 2 - 40
C 40+

Site: Ranger Lake Road

Location Code: 5017012

UTM: 17T 03154 51981

Classification: Eluviated Dystric Brunisol

Landform: outwash

Slope: lower slope 5%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white birch, jack pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14837	LFH	5 - 0	10YR 3/2, 2/2m				5.3	4.7	22	11			52		
14838	Ae	0 - 2	10YR 6/2 5/2m	54	40	6.0	5.4	4.4	1.0	0.50			22		1.5
14839	Bm	2 - 40	10YR 6/6, 5/6m	59	35	6.0	5.5	4.9	1.0	0.70			<3.0		1.8
14840	C	40+	2.5Y 7/4, 5/4m	72	15	13	5.7	5.3	<0.50	<0.10			5.0		0.24

SOIL PROFILE INFORMATION (cont'd.)

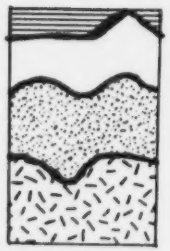
Site: Ranger Lake Road

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14837	LFH	1600	450	570	9.8	13	0.095	0.096	0.14	0.30	0.12	0.28		180	61	11	160
14838	Ae	120	28	87	15	1.2	0.051	0.034	0.0052	0.18	0.041	0.0090		10	16	<2.0	6.3
14839	Bm	110	15	46	18	1.0	0.062	0.21	0.00070	0.48	0.46	0.0025		20	9.4	11	<3.0
14840	C	<2.0	3.0	13	<2.3	<0.1	0.0050	0.088	0.00030	0.14	0.11	0.0013	<1.0	14	11	8.4	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	4 - 0
Ae	0 - 4
Bf	4 - 35
C	35+



Site: Highway 129

Location Code: 5017013

UTM: 17T 03183 51728

Classification: Orthic Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white birch, maple

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14841	LFH	4 - 0	10YR 2/1, 2/1m				6.1	5.6	22	15			93		2.4
14842	Ae	0 - 4	10YR 7/1, 6/1m	53	41	6.0	4.7	4.4	1.0	0.70			7.0		1.4
14843	Bf	4 - 35	10YR 5/4, 3/4m	60	34	5.0	5.5	4.8	2.0	1.4			<3.0		1.4
14844	C	35+	2.5Y 7/4, 5/4m	57	34	10	5.8	5.3	<0.50	0.40			<3.0		1.0

SOIL PROFILE INFORMATION (cont'd.)

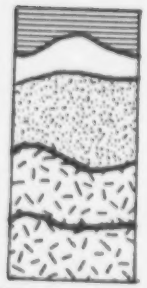
Site: Highway 129

Classification: Orthic Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14841	LFH	3400	460	640	<4.5	22	0.24	0.14	0.17	0.41	0.18	0.23		270	61	16	120
14842	Ae	410	35	34	17	2.6	0.066	0.032	0.0094	0.14	0.040	0.019		17	23	<2.0	3.4
14843	Bf	300	36	27	24	2.1	0.27	0.41	0.0012	0.58	0.70	0.0045		31	27	12	<3.0
14844	C	51	5.0	18	9.0	0.4	0.033	0.16	0.00090	0.14	0.20	0.0033	<1.0	13	15	11	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Ah 0 - 7
Ae 7 - 12
Bfj 12 - 24
B/C 24 - 63
C 63+

Site: Camp Wahnapitae

Location Code: 5017014

UTM: 17T 05694 52253

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: lower slope 2%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: white birch, spruce, jack pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14845	Ah	0 - 7	10YR 3/1	66	12	22	4.7	3.9	12	11			36		12
14846	Ae	7 - 12	10YR 7/2, 5/2m	84	12	4.0	4.3	3.5	1.0	0.30			4.0		14
14847	Bfj	12 - 24	10YR 6/4, 4/4m	90	5.0	5.0	4.9	4.7	1.0	0.50			<3.0		4.0
14848	B/C	24 - 63	10YR 7/4, 6/4m	93	3.0	5.0	5.0	4.9	1.0	0.20			7.0		1.0
14849	C	63+	2.5Y 6/4, 5/4m	94	2.0	4.0	5.2	4.9	<0.50	0.20			<3.0		1.1

SOIL PROFILE INFORMATION (cont'd.)

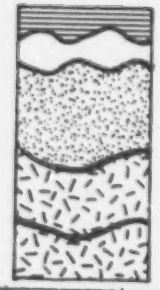
Site: Camp Wahnapitae

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14845	Ah	1700	340	360	30	13	0.15	0.099	0.039	0.34	0.13	0.014		36	57	35	44
14846	Ae	45	9.0	29	140	1.8	0.020	0.024	<0.00010	0.11	0.043	0.0013		5.8	19	<2.0	3.6
14847	Bfj	4.2	2.6	18	30	0.4	0.078	0.21	0.0034	0.56	0.35	0.019		37	23	11	3.9
14848	B/C	21	<1.0	16	3.3	0.2	0.024	0.080	0.0010	0.30	0.21	0.0053		23	24	19	<3.0
14849	C	6.3	2.6	17	4.4	0.1	0.022	0.076	0.0010	0.20	0.13	0.0059		22	31	20	<3.0

SOIL PROFILE INFORMATION

Horizon



Horizon	Depth (cm)
Ah	0 - 4
Ae	4 - 7
Bfj	7 - 19
B/C	19 - 64
C	64+

Site: Cobalt

Location Code: 5017016

UTM: 17T 05991 52409

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: mid-slope 5%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: aspen, birch, spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14854	Ah	0 - 4	10YR 4/1, 3/1m	85	8.0	7.0	5.1	4.3	12	2.7			28		5.5
14855	Ae	4 - 7	10YR 6/2, 5/2m	83	13	4.0	4.6	4.0	1.0	0.40			3.0		9.7
14856	Bfj	7 - 19	10YR 5/6, 4/6m	91	4.0	4.0	4.8	4.7	1.0	0.70			6.0		3.7
14857	B/C	19 - 64	10YR 6/4, 5/4m	96	1.0	3.0	5.6	4.9	1.0	0.30			3.0		0.62
14858	C	64+	2.5Y 7/4, 6/4m	96	2.0	2.0	6.0	5.0	0.50	0.10			3.0		0.41

SOIL PROFILE INFORMATION (cont'd.)

Site: Cobalt

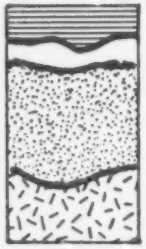
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14854	Ah	750	200	260	6.6	6.1	0.092	0.052	0.017	0.28	0.11	0.032		110	41	26	65
14855	Ae	36	17	36	110	1.6	0.044	0.032	0.0018	0.17	0.054	0.0052		8.4	14	<2.0	<3.0
14856	Bfj	30	7.7	14	13	0.4	0.15	0.21	0.0034	0.52	0.44	0.013		9.5	14	<2.0	3.2
14857	B/C	60	12	25	3.3	0.5	0.071	0.19	0.0010	0.29	0.27	0.0030		34	16	13	<3.0
14858	C	30	9.0	15	5.5	0.3	0.031	0.074	0.00070	0.20	0.10	0.0033	<1.0	20	23	18	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Ah 0 - 6
Aej 6 - 8
Bfj 8 - 46
IIC 46+

Site: Cobalt

Location Code: 5017017

UTM: 17T 05955 52477

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: upper slope 2%

Date: 81/06

Parent Material: glacial/fluvial deposit

Vegetation: white birch, aspen

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14859	Ah	0 - 6	10YR 4/1, 3/1m	43	44	13	5.4	4.7	7.0	2.7			15		3.2
14860	Bfj	8 - 46	10YR 5/6, 4/6m	60	34	6.0	5.2	4.6	2.0	0.90			4.0		4.6
14861	IIC	46+	10YR 6/4, 4/4m	94	3.0	3.0	5.4	4.7	1.0	0.30			<3.0		2.1

SOIL PROFILE INFORMATION (cont'd.)

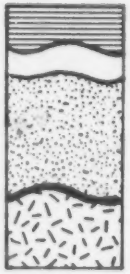
Site: Cobalt

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14859	Ah	320	94	100	4.4	2.7	0.21	0.11	0.050	0.63	0.17	0.059		81	34	20	27
14860	Bfj	64	18	38	63	1.2	0.19	0.29	0.0025	1.0	0.56	0.025		78	14	21	<3.0
14861	IIC	30	15	10	12	0.4	0.062	0.15	0.00040	0.39	0.19	0.0054		46	38	39	3.9

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

Ah 0 - 5
Ae 5 - 8
Bm 8 - 35
IIC 35+

Site: Chapleau

Location Code: 5017018

UTM: 17T 03342 52733

Classification: Eluviated Dystric Brunisol

Landform: lacustrine plain

Slope: level

Date: 81/07

Parent Material: lacustrine

Vegetation: white birch, aspen, spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14862	Ah	0 - 5	10YR 3/2, 2/2m	43	34	23	5.1	5.0	16	9.8			46		0.75
14863	Ae	5 - 8	10YR 7/2, 5/2m	49	45	6.0	5.2	4.8	1.0	0.70			<3.0		2.0
14864	Bm	8 - 35	10YR 6/6, 5/6m	47	49	4.0	5.5	4.9	1.0	1.0			<3.0		1.1
14865	IIC	35+	2.5Y 7/4, 6/4m	90	1.0	9.0	5.9	5.2	<0.50	<0.10			<3.0		0.46

SOIL PROFILE INFORMATION (cont'd.)

Site: Chapleau

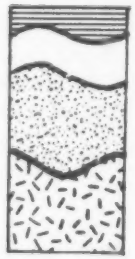
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14862	Ah	2400	430	110	<4.5	16	0.071	0.11	0.14	0.26	0.11	0.19	<1.0	140	33	8.6	66
14863	Ae	300	160	60	<4.5	3.0	0.062	0.038	0.0022	0.16	0.029	0.0042		9.0	17	2.2	3.1
14864	Bm	94	41	63	6.6	1.0	0.067	0.25	0.00090	0.48	0.47	0.0025		19	10	16	<3.0
14865	IIC	15	5.1	18	<4.5	0.2	0.0070	0.070	0.00090	0.095	0.081	0.0040	<1.0	12	14	10	<3.0

SOIL PROFILE INFORMATION

Horizon

Depth (cm)



Ah 0 - 2
Ae 2 - 7
Bm 7 - 26
IIC 26+

Site: Chapleau

Location Code: 5017019

UTM: 17T 03216 52958

Classification: Eluviated Dystric Brunisol

Landform: lacustrine plain

Slope: lower slope 5%

Date: 81/07

Parent Material: lacustrine

Vegetation: aspen, white spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14866	Ah	0 - 2	10YR 4/1, 3/1m	45	45	10	4.8	4.3	7.0	2.3			28		3.8
14867	Ae	2 - 7	10YR 7/2, 5/2m	48	45	7.0	4.9	4.1	2.0	0.60			62		9.8
14868	Bm	7 - 26	10YR 6/6, 5/6m	54	42	5.0	5.4	5.0	1.0	0.40			8.0		0.29
14869	IIC	26+	2.5Y 7/4, 6/4m	84	6.0	10	5.8	5.2	<0.50	<0.10			6.0		0.16

SOIL PROFILE INFORMATION (cont'd.)

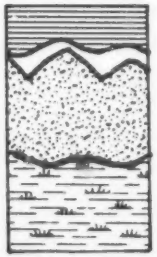
Site: Chapleau

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14866	Ah	800	140	180	54	6.2	0.11	0.088	0.0086	0.24	0.10	0.015		26	35	2.9	19
14867	Ae	92	31	53	120	2.2	0.14	0.14	0.00070	0.24	0.14	0.0018		7.5	7.9	<2.0	<3.0
14868	Bm	36	13	22	3.3	0.4	0.12	0.23	0.00090	0.59	0.36	0.0028	<1.0	14	9.0	8.3	<3.0
14869	IIC	23	9.0	11	<2.3	0.2	0.016	0.053	0.0010	0.14	0.092	0.0047	<1.0	14	8.8	10	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Ah 0 - 4
Ae 4 - 6
Bfj 6 - 34
Cgj 34+

Site: Chapleau

Location Code: 5017020

UTM: 17T 03213 52891

Classification: Gleyed Eluviated Dystric Brunisol

Landform: Lacustrine plain

Slope: level

Date: 81/07

Parent Material: Lacustrine

Vegetation: aspen, black spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14870	Ah	0 - 4	10YR 3/2, 2/2m	46	38	16	5.3	4.5	13	7.2			46		3.8
14871	Ae	4 - 6	10YR 7/2, 5/2m	46	47	7.0	5.1	4.3	2.0	0.70			<3.0		5.3
14872	Bfj	6 - 34	10YR 5/4, 4/4m	55	39	6.0	5.5	4.8	1.0	0.70			<3.0		1.6
14873	Cgj	34+	2.5Y 8/4, 6/4m	17	79	4.0	5.4	4.8	<0.50	0.30			<3.0		2.0

SOIL PROFILE INFORMATION (cont'd.)

Site: Chapleau

Classification: Gleyed Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14870	Ah	660	270	410	6.6	6.6	0.18	0.099	0.096	0.29	0.099	0.080		25	19	4.1	33
14871	Ae	230	43	33	67	2.3	0.15	0.17	0.00030	0.21	0.17	0.0018		9.0	6.6	3.2	<3.0
14872	Bfj	110	22	15	16	0.95	0.24	0.31	<0.00010	0.24	0.43	0.0030		22	19	9.8	<3.0
14873	Cgj	21	10	12	20	0.4	0.13	0.14	<0.00010	0.31	0.18	0.0028		20	19	16	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Horizon	Depth (cm)
An	0 - 4
Ae	4 - 10
Bm	10 - 39
C	39+

Site: Chapleau

Location Code: 5017021

UTM: 17T 03233 52888

Classification: Eluviated Dystric Brunisol

Landform: Lacustrine plain

Slope: level

Date: 81/07

Parent Material: Lacustrine

Vegetation: aspen, white birch, jack pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14874	Ah	0 - 4	10YR 3/1, 2/1m	71	18	11	5.1	3.9	10	5.4			60		7.5
14875	Ae	4 - 10	10YR 7/2, 5/2m	79	17	4.0	4.5	3.7	1.0	0.60			6.0		16
14876	Bm	10 - 39	10YR 5/4, 4/4m	63	32	5.0	5.3	4.5	1.0	0.70			<3.0		4.6
14877	C	39+	2.5Y 7/4, 5/4m	96	1.0	2.0	5.4	4.9	<0.50	0.20			<3.0		1.2

SOIL PROFILE INFORMATION (cont'd.)

Site: Chapleau

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14874	Ah	860	200	150	80	7.2	0.13	0.096	0.011	0.25	0.13	0.014		23	25	7.6	30
14875	Ae	30	17	28	140	1.9	0.058	0.059	0.00030	0.14	0.060	0.0011		5.4	11	<2.0	<3.0
14876	Bm	36	13	15	23	0.55	0.10	0.19	0.00050	0.48	0.38	0.0023		22	18	15	<3.0
14877	C	15	5.1	1.9	7.6	0.2	0.022	0.069	0.00090	0.16	0.10	0.0028		19	30	12	<3.0

SOIL PROFILE INFORMATION

Horizon

	Depth (cm)
LFH	4 - 0
Ae	0 - 4
Bf	4 - 28
C	28+

Site: Chapleau

Location Code: 5017022

UTM: 17T 03334 52681

Classification: Orthic Humo-Ferric Podzol

Landform: lacustrine plain

Slope: lower slope 2%

Date: 81/07

Parent Material: lacustrine

Vegetation: aspen, balsam fir, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14878	LFH	4 - 0	10YR 3/2, 2/2m				5.3	4.8	23	12			95		4.3
14879	Ae	0 - 4	10YR 7/2, 5/2m	8.0	86	6.0	4.6	3.8	1.0	0.50			16		5.3
14880	Bf	4 - 28	10YR 5/6, 4/6m	15	79	6.0	5.4	4.7	2.0	1.0			<3.0		2.4
14881	C	28+	2.5Y 7/4, 6/4m	16	68	16	6.0	5.2	<0.50	0.20			10		0.42

SOIL PROFILE INFORMATION (cont'd.)

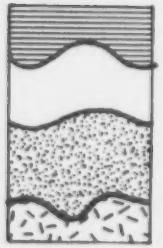
Site: Chapleau

Classification: Orthic Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14878	LFH	2300	290	71	<4.5	14	0.096	0.095	0.20	0.27	0.10	0.34		80	110	8.7	77
14879	Ae	120	18	41	110	2.1	0.066	0.046	0.0061	0.13	0.050	0.014		8.6	16	2.3	<3.0
14880	Bf	150	12	26	20	1.1	0.23	0.39	0.0017	0.96	0.63	0.0054		18	9.6	11	<3.0
14881	C	85	7.0	10	5.0	0.6	0.028	0.12	0.00090	0.22	0.17	0.0025	<1.0	14	7.1	16	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	12 - 0
Ae	0 - 12
Bfj	12 - 42
C	42+



Site: Massey

Location Code: 5017024

UTM: 17T 04112 51236

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14883	LFH	12 - 0	10YR 3/2, 2/2m				6.4	5.9	29	16			85		0.38
14884	Ae	0 - 12	10YR 5/2, 3/2m	81	10	10	6.5	5.9	2.0	0.80			4.0		0.37
14885	Bfj	12 - 42	10YR 5/6, 4/6m	85	5.0	10	6.2	5.4	1.0	0.30			<3.0		0.27
14886	C	42+	10YR 6/4, 5/4m	94	<1.0	6.0	6.3	5.4	<0.50	<0.10			<3.0		0.24

SOIL PROFILE INFORMATION (cont'd.)

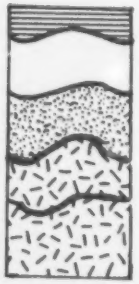
Site: Massey

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14883	LFH	8300	330	630		46	0.024	0.14	0.040	0.14		0.067	<1.0		65		57
14884	Ae	450	15	37		2.5	0.12	0.14	0.0054	0.33	0.18	0.016	<1.0	39	23	2.9	4.2
14885	Bfj	130	72	26	4.0	1.5	0.18	0.27	0.0029	0.48	0.43	0.016	<1.0	37	13	6.0	4.7
14886	C	21	10	14	4.0	0.3	0.022	0.071	0.0014	0.12	0.081	0.0037	<1.0	17	19	4.5	<3.0

SOIL PROFILE INFORMATION

Horizon



Depth (cm)

Ah 0 - 4
Ae 4 - 12
Bfj 12 - 27
27 - 67
B/C 67+
C

Site: Massey

Location Code: 5017025

UTM: 17T 04092 51447

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: aspen, balsam fir, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14887	Ah	0 - 4	10YR 3/2, 2/2m	70	20	10	4.3	3.4	13	4.0			13		12
14888	Ae	4 - 12	10YR 7/2, 5/2m	76	20	5.0	4.5	3.8	1.0	0.60			<3.0		19
14889	Bfj	12 - 27	10YR 5/6, 4/6m	89	8.0	3.0	5.1	4.7	1.0	0.60			<3.0		2.9
14890	B/C	27 - 67	10YR 7/6, 5/6m	86	11	3.0	5.1	4.9	<0.50	0.30			<3.0		0.90
14891	C	67+	10YR 6/4, 5/4m	93	4.0	4.0	5.2	4.9	<0.50	<0.10			4.0		0.72

SOIL PROFILE INFORMATION (cont'd.)

Site: Massey

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14887	Ah	48	170	260	170	4.2	0.10	0.089	0.0060	0.24	0.12	0.0074					
14888	Ae	13	5.0	19	160	1.9	0.097	0.073	0.00060	0.21	0.080	0.0013		7.5	15	2.1	3.2
14889	Bfj	9.0	3.0	8.0	15	0.3	0.089	0.24	0.00080	0.49	0.47	0.0037		22	13	5.0	3.7
14890	B/C	4.0	1.0	2.0	5.0	0.1	0.025	0.10	0.00060	0.26	0.18	0.00020		20	7.6	5.3	<3.0
14891	C	4.0	1.0	4.0	8.0	0.1	0.019	0.055	0.00050	0.17	0.094	0.0012		21	25	3.7	9.2

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	4-0
Ae	0-8
Bfj	8-33
IIC	33+

Site: Massey

Location Code: 5017026

UTM: 17T 04013 51786

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: aspen, jack pine, spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14892	LFH	4-0	10YR 2/2, 2/2m				4.5	3.8	28	18			80		8.6
14893	Ae	0-8	10YR 7/2, 5/2m	66	30	4.0	4.4	3.4	1.0	0.60			4.0		12
14894	Bfj	8-33	10YR 5.6, 4/6m	62	32	6.0	5.0	4.7	2.0	0.90			<3.0		3.3
14895	IIC	33+	10YR 7/4, 5/4m	90	7.0	3.0	5.1	4.7	1.0	0.40			<3 0		2.2

SOIL PROFILE INFORMATION (cont'd.)

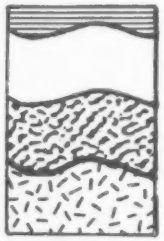
Site: Massey

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14892	LFH	3000	560	700	18	22	0.028	0.060	0.026	0.19	0.083	0.025		410	85	17	100
14893	Ae	48	14	31	130	1.9	0.022	0.022	0.00030	0.12	0.032	0.00020		10	9.6	<2.0	3.2
14894	Bfj	11	3.0	22	19	0.3	0.17	0.39	0.00060	0.96	0.81	0.0022		53	14	5.8	11
14895	IIC	13	3.0	11	17	0.3	0.054	0.16	0.00030	0.28	0.23	0.00050		24	15	3.3	8.2

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-3
Ae	3-11
Bm	11-35
C	35+



Site: Massey

Location Code: 5017027

UTM: 17T 04038 51718

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: lower slope 5%

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: aspen, spruce

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14896	Ah	0-3	10YR 3/1, 2/1m	66	21	13	4.5	3.6	11	10			19		5.9
14897	Ae	3-11	7.5Y 6/2, 5/2m	84	12	5.0	4.3	3.6	1.0	0.40			<3.0		14
14898	Bm	11-35	10YR 6/6, 5/6m	89	7.0	4.0	5.2	4.8	1.0	0.40			4.0		1.6
14899	C	35+	10YR 7/4, 6/4m	91	5.0	4.0	5.6	4.9	<0.50	0.20			<3.0		0.75

SOIL PROFILE INFORMATION (cont'd.)

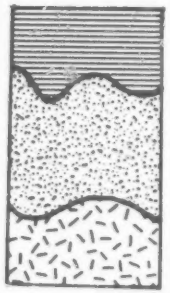
Site: Massey

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14896	Ah	800	230	480	86	8.1	0.067	0.071	0.019	0.19	0.086	0.020		45	25	9.0	43
14897	Ae	23	5.0	19	120	1.5	0.050	0.034	0.00050	0.16	0.040	0.00070		3.6	7.7	<2.0	<3.0
14898	Bm	11	1.0	7.0	9.0	0.2	0.066	0.14	0.00090	0.43	0.43	0.0029		22	19	4.2	4.7
14899	C	6.0	1.0	7.0	4.0	0.1	0.024	0.068	0.00060	0.19	0.12	0.00050		16	13	3.8	5.2

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



Ah 0-26

Bf 26-36

C 36+

Site: McKellar - Parry Sound

Location Code: 5017028

UTM: 17T 05837 50429

Classification: Sombric Humo-Ferric Podzol

Landform: moraine

Slope: toe of the slope - 5%

Date: 81/07

Parent Material: shallow till

Vegetation: maple, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14900	Ah	0-26	10YR 4/2, 3/2m	62	24	14	4.6	4.3	6.0	3.8			<3.0		19
14901	Bf	26-36	7.5Y 4/4, 3/4m	86	9.0	5.0	5.1	4.4	2.0	1.3			<3.0		7.0
14902	C	36+	10YR 6/6, 5/6m	87	9.0	3.0	5.3	4.6	1.0	0.60			<3.0		5.1

SOIL PROFILE INFORMATION (cont'd.)

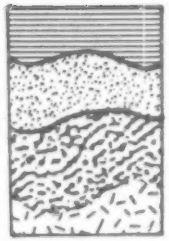
Site: McKellar - Parry Sound

Classification: Sombric Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14900	Ah	73	20	32	140	2.2	0.60	0.98	0.11	1.1	1.1	0.036		69	51	9.0	7.0
14901	Bf	63	8.0	11	51	1.0	0.29	0.49	0.0013	0.80	0.64	0.0026		160	33	12	<3.0
14902	C	36	3.0	2.0	34	0.6	0.064	0.28	0.00080	0.50	0.41	0.0019		21	18	8.5	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	9-0
Ae	0-17
Bm	17-41
C	41+



Site: Timmins

Location Code: 5017030

UTM: 17T 04646 53533

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: upper slope - 6%

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: balsam fir, black spruce, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14906	LFH	9-0	10YR 3/2, 2/2m				4.6	3.9	31	17			190		10
14907	Ae	0-17	10YR 7/2, 6/2m	79	17	4.0	4.8	3.7	<0.50	0.30			6.0		7.5
14908	Bm	17-41	10YR 6/8, 5/8m	85	10	4.0	5.5	4.6	1.0	0.40			16		2.3
14909	C	41+	2.5Y 7/4, 6/4m	95	2.0	3.0	5.9	4.9	<0.50	<0.10			<3.0		0.59

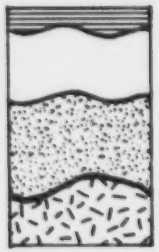
Site: Timmins

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14906	LFH	1500	500	690	12	13	0.020	0.050	0.050	0.16	0.072	0.050		73	66	9.5	75
14907	Ae	67	11	24	59	1.1	0.021	0.028	0.0011	0.056	0.029	0.0031		3.5	3.5	<2.0	<3.0
14908	Bm	46	5.0	12	14	0.5	0.089	0.19	0.00090	0.51	0.41	0.0014		16	9.9	7.0	<3.0
14909	C	23	3.0	5.0	7.0	0.2	0.025	0.080	0.0013	0.12	0.11	0.0031		8.5	8.3	8.5	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-2
Ae	2-12
Bf	12-50
C	50+



Site: Timmins

Location Code: 5017033

UTM: 17T 04777 53383

Classification: Eluviated Dystric Brunisol

Landform: moraine

Slope: lower slope - 2%

Date: 81/07

Parent Material: till

Vegetation: aspen, spruce, moose maple

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14917	Ah	0-2	10YR 3/1, 2/1m	44	39	17	4.7	4.1	16	5.9			54		12
14918	Ae	2-12	10YR 7/3, 6/3m	19	75	6.0	4.8	4.0	1.0	0.60			<3.0		12
14919	Bfj	12-50	10YR 5/6, 4/6m	43	55	2.0	5.5	4.9	1.0	0.70			<3.0		2.0
14920	C	50+	2.5Y 7/4, 6/4m	64	35	2.0	5.4	4.8	1.0	0.30			<3.0		1.7

SOIL PROFILE INFORMATION (cont'd.)

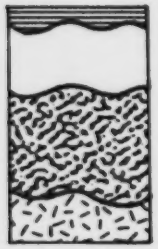
Site: Timmins

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14917	Ah	1800	510	950	12	16	0.074	0.061	0.30	0.21	0.083	0.033		73	62	8.9	28
14918	Ae	89	9.0	26	110	1.8	0.23	0.14	0.013	0.39	0.13	0.018		10	4.8	4.2	<3.0
14919	Bfj	71	5.0	12	8.0	0.50	0.17	0.31	0.0011	0.59	0.52	0.0046		29	19	30	<3.0
14920	C	22	4.0	11	9.0	0.3	0.065	0.14	0.0021	0.29	0.18	0.0043		26	35	46	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-4
Ae	4-14
Bm	14-54
C	54+



Site: Mattawa

Location Code: 5017037

UTM: 17T 06809 51225

Classification: Eluviated Dystric Brunisol

Landform: outwash

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: aspen, white pine, red pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14933	Ah	0-4	10YR 3/2, 2/2m	80	9.0	11	4.4	3.7	16	8.0			76		8.0
14934	Ae	4-14	10YR 6/2, 4/2m	93	4.0	3.0	4.7	3.9	1.0	0.40			12		12
14935	Bm	14-54	10YR 6/6, 5/6m	91	1.0	8.0	5.7	5.0	1.0	0.30			10		0.87
14936	C	54+	10YR 7/6, 6/6m	97	1.0	3.0	5.8	5.0	<0.50	<0.10			4.0		0.63

SOIL PROFILE INFORMATION (cont'd.)

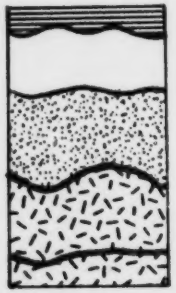
Site: Mattawa

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14933	Ah	630	290	430	25	6.9	0.039	0.036	0.022	0.17	0.065	0.023		59	63	13	63
14934	Ae	15	7.0	17	83	1.1	0.048	0.042	0.00020	0.12	0.058	0.0010		4.2	10	<2.0	<3.0
14935	Bm	40	2.0	2.0	4.0	0.3	0.063	0.12	0.00030	0.36	0.29	0.0020	<1.0	15	9.5	3.6	<3.0
14936	C	24	1.0	4.0	<2.3	0.2	0.048	0.073	0.00020	0.18	0.14	0.00070	<1.0	24	12	4.5	4.2

SOIL PROFILE INFORMATION

Horizon | Depth (cm)



LFH 4-0
Ae 0-6
Bfj 6-17
B/C 17-35
C 35+

Site: Wahnapitae

Location Code: 5017038

UTM: 17T 05186 51819

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: white birch, aspen

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14937	LFH	4-0	10YR 3/2, 2/2m				4.4	3.7	19	13			76		13
14938	Ahe	0-6	10YR 5/1, 4/1m	82	13	6.0	4.4	3.5	2.0	1.0			37		12
14939	Bfj	6-17	10YR 6/6, 4/6m	91	5.0	3.0	5.1	4.6	1.0	0.60			4.0		4.2
14940	B/C	17-35	2.5Y 7/4, 6/4m	94	3.0	2.0	5.4	4.9	<0.50	0.20			4.0		1.2
14941	C	35+	5YR 7/3, 6/3m	92	1.0	7.0	5.6	5.1	<0.50	<0.10			4.0		0.26

SOIL PROFILE INFORMATION (cont'd.)

Site: Wahnapitae

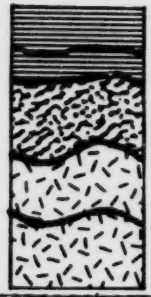
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14937	LFH	1100	280	380	62	9.2	0.18	0.077	0.061	0.47	0.11	0.062		79	360	380	120
14938	Ahe	87	14	26	160	2.4	0.12	0.079	0.0025	0.19	0.089	0.0027		8.1	17	19	3.2
14939	Bfj	19	2.0	6.0	22	0.4	0.13	0.22	0.0064	0.39	0.42	0.013		24	9.5	15	<3.0
14940	B/C	13	2.0	4.0	6.0	0.2	0.039	0.11	0.0013	0.18	0.18	0.0025		20	16	14	<3.0
14941	C	8.0	3.0	2.0	4.0	0.1	0.015	0.054	0.015	0.12	0.079	0.0042	<1.0	11	21	10	<3.0

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

LFH 7-0
Ahe 0-3
Bm 3-16
B/C 16-33
C 33+



Site: Wahnapitae

Location Code: 5017039

UTM: 17T 05194 51831

Classification: Eluviated Dystric Brunisol

Landform: outwash channel

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: jack pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14942	LFH	7-0	10 YR 3/2, 2/2 m				3.9	3.5	25	13			38		30
14943	Ahe	0-3	10 YR 4/1, 3/1 m	77	17	7.0	3.9	3.1	6.0	1.2			42		35
14944	Bm	3-16	10 YR 6/4, 5/4 m	81	14	5.0	5.1	4.6	1.0	0.60			<3.0		5.3
14945	B/C	16-33	2.5 Y 6/4, 5/4 m	83	13	3.0	5.0	4.7	1.0	0.20					2.8
14946	C	33+	2.5 Y 7/4, 6/4 m	90	7.0	3.0	5.1	5.0	<0.50	0.10			<3.0		0.58

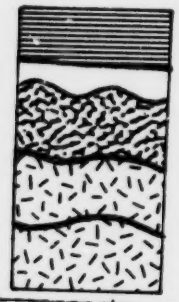
SOIL PROFILE INFORMATION (cont'd.)

Site: Wahnapitae

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14942	LFH	650	250	310	200	8.3	0.22	0.13	0.0016	0.54	0.16	0.015		64	400	380	120
14943	Ahe	110	26	57	240	3.6	0.18	0.12	0.0016	0.29	0.12	0.0024		48	350	350	100
14944	Bm	2.0	3.0	7.0	28	0.4	0.092	0.20	0.0021	0.47	0.46	0.014		21	13	14	<3.0
14945	B/C	2.0	1.0	7.0	12	0.2	0.035	0.12	0.00050	0.22	0.21	0.0012		12	11	10	<3.0
14946	C	<1.4	1.0	1.0	<2.3	<0.1	0.0050	0.038	0.00090	0.12	0.068	0.0059	<1.0	19	9.1	10	<3.0

SOIL PROFILE INFORMATION



Site: Wahnapitae

Location Code: 5017040

UTM: 17T 05199 51849

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14947	LFH	6-0	10YR 3/2, 2/2 m				4.1	3.3	30	8.1			86		22
14948	Ae	0-4	10YR 5/2, 4/2 m	87	9.0	4.0	4.3	3.4	2.0	0.50			3.0		21
14949	Bm	4-24	2.5 Y 6/4 5/4 m	89	8.0	3.0	5.0	4.4	1.0	0.40			19		6.1
14950	B/C	24-44	2.5 Y 7/4 6/4 m	91	6.0	3.0	5.0	4.8	<0.50	0.20			<3.0		1.5
14951	C	44+	2.5 Y 7/4 6/4 m	85	12	3.0	5.1	4.8	<0.50	0.10			<3.0		1.8

SOIL PROFILE INFORMATION (cont'd.)

Site: Wahnapitae

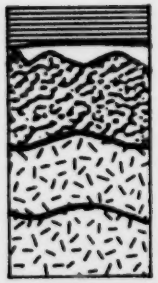
Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14947	LFH	800	220	460	130	8.4	0.16	0.058	0.022	0.60	0.10	0.022		66	360	490	150
14948	Ae	13	8.0	22	130	1.6	0.14	0.081	0.0073	0.22	0.096	0.0081		13	18	7.0	<3.0
14949	Bm	9.0	3.0	17	28	0.4	0.10	0.17	0.0075	0.24	0.25	0.011		22	8.0	11	5.7
14950	B/C	4.0	1.0	2.0	4.0	0.1	0.014	0.071	0.0016	0.14	0.11	0.0027		10	8.0	11	<3.0
14951	C	5.0	2.0	4.0	3.0	0.1	0.011	0.050	0.0014	0.14	0.093	0.0034		10	21	10	5.8

SOIL PROFILE INFORMATION

Horizon | Depth (cm)

LFH 3-0
Aej 0-1
Bm 1-27
B/C 27-52
C 52+



Site: Wahnapitae

Location Code: 5017041

UTM: 17T 05197 51847

Classification: Orthic Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/07

Parent Material: glacial/fluvial deposit

Vegetation: jack pine, white birch

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14952	LFH	3-0	10 YR 3/2 2/2 m				4.2	3.4	29	12			42		19
14953	Aej	0-1	10 YR 5/2 3/2 m	72	22	7.0	4.3	3.5	2.0	0.90			30		29
14954	Bm	1-27	10 YR 5/4 4/4 m	76	19	4.0	4.9	4.4	1.0	0.40			<3.0		6.2
14955	B/C	27-52	2.5 Y 7/4 6/4 m	76	21	3.0	5.1	4.7	<0.50	0.20			4.0		2.0
14956	C	52+	2.5 Y 7/3 6/3 m	97	1.0	2.0	5.6	5.0	<0.50	<0.10			<3.0		0.38

SOIL PROFILE INFORMATION (cont'd.)

Site: Wahnapitae

Classification: Orthic Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
14952	LFH	1500	220	460	210	13	0.19	0.12	0.027	0.46	0.13	0.027		34	160	150	46
14953	Aej	61	15	54	300	3.9	0.18	0.15	0.012	0.29	0.16	0.017		17	25	11	11
14954	Bm	4.0	2.0	10	21	0.3	0.054	0.21	0.0046	0.37	0.34	0.014		14	11	14	<3.0
14955	B/C	4.0	3.0	7.0	10	0.2	0.040	0.10	0.00060	0.23	0.14	0.0017		14	25	12	<3.0
14956	C	11	1.0	1.0	<4.5	0.1	0.0090	0.023	0.00050	0.10	0.040	0.0036	<1.0	19	9.1	10	<3.0

SOIL PROFILE INFORMATION

Site: Timmins

Location Code: 5017043

UTM: 17T 05165 53584

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 81/09

Parent Material: glacial/fluvial deposit

Vegetation: jack pine

Comments:

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
14962	Of	5-0	5 Y 4/2, 2.5/2 m				4.2	3.7	27	7.9			92		24
14963	Ae	0-6	2.5 Y 7/2, 5/2 m	93	3.0	4.0	4.4	3.5	2.0	0.50			<3.0		14
14964	Bm	6-35	2.5 Y 6/4, 5/4 m	96	1.0	3.0	5.1	4.7	1.0	0.30			6.0		2.1
14965	C	35+	2.5 Y 7/4, 6/4 m	97	1.0	2.0	5.5	5.0	<0.50	<0.10			4.0		0.30

SOIL PROFILE INFORMATION (cont'd.)

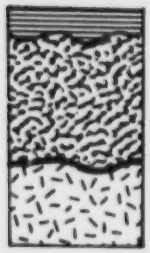
Site: Timmins

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
14962	Of	990	480	690	76	12	0.057	0.099	0.034	0.16	0.12	0.031		54	77	8.5	51
14963	Ae	5.0	4.0	7.0	110	1.3	0.062	0.057	0.020	0.12	0.068	0.032		21	7.8	2.5	<3.0
14964	Bm	1.0	1.0	<1.0	9.0	0.1	0.045	0.13	0.0014	0.25	0.24	0.0029		15	23	11	<3.0
14965	C	18	3.0	<1.0	<2.3	0.2	0.015	0.046	0.0011	0.10	0.090	0.0034	<1.0	11	10	15	<3.0

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-3
Bm1	3-16
Bm2	16-30
C	30+



Site: Gogama Experimental Plot

Location Code: 5017125

UTM: 17T 04363 52539

Classification: Orthic Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/21

Parent Material: glacial/fluvial sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12832	Ah	0-3	10 YR 4/2, 3/2 m	92	8.0	1.0	5.2	4.6	1.3	1.2				270	
12833	Bm1	3-16	10 YR 6/4, 5/4 m	90	5.0	5.0	5.2	4.9	0.73	0.34				190	
12834	Bm2	16-30	2.5 Y 7/4, 6/4 m	95	2.0	2.0	5.2	5.0	0.29	0.88				700	
12835	C	30+	2.5 Y 7/2, 6/2 m	98	1.0	1.0	6.2	5.3	0.080	0.12				240	
12836	Ah	0-3					5.2	4.4		1.1				210	
12837	Bm1	3-16					5.2	4.9		0.91				240	
12838	Bm2	16-30					5.2	4.9		0.21				170	
12839	C	30+					6.3	5.4		0.26				300	
12840	Ah	0-3					5.2	4.5		1.1				280	
12841	Bm1	3-16					5.2	4.9		0.54				240	
12842	Bm2	16-30					5.3	5.0		0.28				280	
12843	C	30+					5.6	5.4		0.11				270	

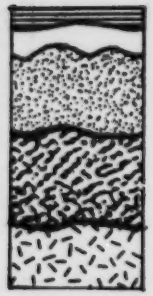
SOIL PROFILE INFORMATION (cont'd.)

Site: Gogama Experimental Plot

Classification: Orthic Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12832	Ah	180	<0.70	22	58	1.5	0.090	0.23	0.0023	0.87	0.23	0.0070		22	8.5	13	<3.0
12833	Bm1	98	9.0	22	5.0	0.66	0.040	0.15	0.00040	0.32	0.19	0.0020		23	13	17	<3.0
12834	Bm2	39	2.0	11	3.5	0.3	0.020	0.080	0.00040	0.22	0.16	0.0020		18	12	15	<3.0
12835	C	39	2.0	11	<2.3	0.3	0.030	0.060	0.0025	0.17	0.10	0.010		16	15		<3.0
12836	Ah	140	9.0	22	110	1.9											
12837	Bm1	49	2.0	11	14	0.4											
12838	Bm2	10	2.2	11	6.5	0.2											
12839	C	29	2.2	5.0	<4.5	0.2											
12840	Ah	98	9.0	32	130	1.9											
12841	Bm1	29	2.2	11	11	0.3											
12842	Bm2	27	<0.70	15	10	0.3											
12843	C	16	<0.70	5.0	4.5	0.1											

SOIL PROFILE INFORMATION



Site: Elk Lake Experimental Plot

Location Code: 5017126

UTM: 17T 05015 52724

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/21

Parent Material: glacial/fluvial sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12844	Ah	0-1	10 YR 3/2, 2/2 m	73	13	14	4.0	3.3	13	5.2				460	
12845	Ae	1-4	10 YR 7/2, 6/2 m	77	17	6.0	4.2	3.4	0.94	0.52				100	
12846	Bfj	4-16	10 YR 7/6, 5/6 m	81	14	4.0	5.2	4.8	1.1	0.54				540	
12847	B/C	16-45	10 YR 7/4, 5/4 m	86	10	5.0	5.9	5.3	0.29	0.27				330	
12848	C	45+	2.5 Y 7/4, 6/4 m	97	1.0	3.0	5.9	5.5	0.090	0.10				250	
12849	Ah	0-1					4.3	3.4		2.0				210	
12850	Ae	1-4													
12851	Bfj	4-16					5.5	5.1		0.39				410	
12852	B/C	16-45					6.1	5.6		0.19				290	
12853	C	45+					6.1	5.6		0.20				280	

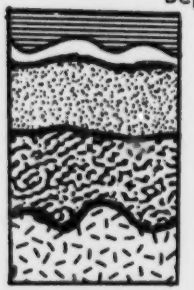
SOIL PROFILE INFORMATION (cont'd.)

Site: Elk Lake Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12844	Ah	1300	190	320	220	11				0.26	0.12	0.010		36	22	21	49
12845	Ae	33	14	29	240	2.8	0.050	0.040	0.00040	0.14	0.050	0.0020		5.3	2.4	2.5	<3.0
12846	Bfj	18	<0.70	5.0	11	0.2	0.070	0.30	0.00060	0.67	0.47	0.0040		27	7.6	18	<3.0
12847	B/C	24	<0.70	12	<2.3	0.2	0.040	0.10	0.00040	0.49	0.22	0.0030	<1.0	22	7.6	13	<3.0
12848	C	18	<0.70	5.0	<2.3	0.1	0.020	0.070	0.0011	0.14	0.10	0.0040	<1.0	13	13		<3.0
12849	Ah	700	78	130	170	5.9											
12850	Ae																
12851	Bfj	7.0	<0.70	10	<2.3	0.1											
12852	B/C	16	<0.70	12	<2.3	0.1											
12853	C	12	<0.70	2.0	<2.3	0.1											

SOIL PROFILE INFORMATION



Site: Elk Lake Experimental Plot

Location Code: 5017126

UTM: 17T 05015 52724

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/21

Parent Material: glacial/fluvial sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12854	Ah	0-1	10 YR 3/2, 2/2 m				3.9	3.3		11				690	
12855	Ae	1-4	10 YR 7/2, 6/2 m				3.9	3.3		0.25				50	
12856	Bfj	4-16	10 YR 7/6, 5/6 m				5.3	4.7		0.51				300	
12857	B/C	16-46	10 YR 7/4, 5/4 m				5.8	5.2		0.23				280	
12858	C	46+	2.5 Y 7/4, 6/4 m				5.8	5.5		0.090				280	

SOIL PROFILE INFORMATION (cont'd.)

Site: Elk Lake Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12854	Ah	710	180	320	170	7.5											
12855	Ae	15	8.0	21	240	2.6											
12856	Bfj	9.0	3.0	11	8.0	0.2											
12857	B/C	13	2.0	16	2.3	0.1											
12858	C	15	3.0	5.0	<2.3	0.1											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Horizon	Depth (cm)
Ah	0-19
Ae	19-46
Bf	46-58
C	58+

Site: Gurd Experimental Plot

Location Code: 5017127

UTM: 17T 06192 50927

Classification: Sombric Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/07/22

Parent Material: glacial/fluvial sand

Vegetation: red pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12859	Ah	0-19	10 YR 5/2, 4/2 m	74	19	6.0	5.6	4.6	1.7	1.4				510	
12860	Ae	19-46	10 YR 7/2, 6/2 m	74	21	5.0	5.8	4.6	0.33	0.43				90	
12861	Bf	46-58	7.5YR 5/4, 3/4 m	72	25	4.0	5.6	4.6	1.5	0.83				1300	
12862	C	58+	10 YR 7/4, 6/4 m	90	7.0	3.0	5.7	4.8	0.44	0.29				590	
12863	Ah	0-19					5.2	4.3		1.3				480	
12864	Ae	19-46					5.7	4.5		0.28				80	
12865	Bf	46-58					5.9	4.8		1.5				1400	
12866	C	58+					5.9	4.9		0.29				470	
12867	Ah	0-19					5.3	4.4		1.4				600	
12868	Ae	19-46					5.6	4.5		0.31				120	
12869	Bf	46-58					5.6	4.7		0.85				850	
12870	C	58+					5.7	4.8		0.27				600	

SOIL PROFILE INFORMATION (cont'd.)

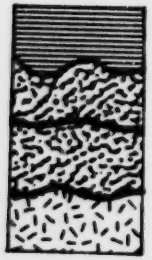
Site: Gurd Experimental Plot

Classification: Sombric Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12859	Ah	230	10	24	26	1.5	0.31	0.21	0.019	0.62	0.21	0.058		49	3.3	3.0	5.1
12860	Ae	140	9.0	10	18	0.95	0.050	0.040	0.0019	0.15	0.040	0.016		9.7	1.1	<2.0	<3.0
12861	Bf	160	5.0	10	28	1.1	0.44	0.41	0.0014	0.66	0.48	0.0080		39	3.4	4.9	<3.0
12862	C	49	<0.70	10	9.5	<0.50	0.060	0.13	0.00090	0.24	0.17	0.0070		25	2.7	6.0	<3.0
12863	Ah	120	9.5	32	47	1.2											
12864	Ae	110	9.0	15	16	0.84											
12865	Bf	350	18	15	28	2.2											
12866	C	49	<0.70	25	7.0	<0.50											
12867	Ah	120	5.0	50	45	1.2											
12868	Ae	170	5.0	35	26	1.2											
12869	Bf	150	14	20	23	1.1											
12870	C	60	9.0	15	12	0.54											

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-15
Bm	15-31
B/C	31-56
C	56+



Site: Lake Traverse Experimental Plot

Location Code: 5017129

UTM: 17T 07312 50906

Classification: Orthic Sombric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/28

Parent Material: glacial/fluvial sand

Vegetation: grass

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12905	Ah	0-15	10 YR 4/2, 3/2 m	89	8.0	2.0	5.8	4.8	1.8	0.96				390	
12906	Bm	15-31	10 YR 6/6, 4/6 m	92	6.0	2.0	5.9	5.2	0.61	0.50				520	
12907	B/C	31-56	10 YR 7/6, 5/6 m				5.9	5.4	0.20	0.13				440	
12908	C	56+	10 YR 7/4, 5/4 m				6.0	5.4	0.16	0.19				310	
12909	Ah	0-15					5.8	4.9		1.2				290	
12910	Bm	15-31					6.2	5.4		0.24				470	
12911	B/C	31-56					6.1	5.5		0.11				420	
12912	C	56+					6.0	5.7		0.10				540	
12913	Ah	0-15					5.7	4.7		2.1				450	
12914	Bm	15-31					5.8	5.1		0.26				380	
12915	B/C	31-56					5.9	5.3		0.27				380	
12916	C	56+					5.9	5.6		0.090				330	

SOIL PROFILE INFORMATION (cont'd.)

Site: Lake Traverse Experimental Plot

Classification: Orthic Sombric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12905	Ah	340	37	50	21	2.3	0.080	0.10	0.0029	0.49	0.21	0.0090		51	8.4	6.8	7.0
12906	Bm	71	9.0	15	3.5	0.5	0.11	0.23	0.00050	0.73	0.46	0.0050	<1.0	33	6.9	50	<3.0
12907	B/C	38	9.0	15	2.5	0.3	0.040	0.090	0.00040	0.46	0.49	0.0070	<1.0	28	9.3	90	<3.0
12908	C	38	9.0	15	2.5	0.3	0.040	0.080	0.00050	0.33	0.12	0.0040	<1.0	23	11	97	<3.0
12909	Ah	350	21	29	28	2.3											
12910	Bm	71	5.0	15	2.5	0.5											
12911	B/C	30	4.6	7.1	<2.3	0.2											
12912	C	23	4.6	10	<2.3	0.2											
12913	Ah	740	40	48	49	4.6											
12914	Bm	38	5.0	15	3.5	0.3											
12915	B/C	49	5.0	10	3.0	0.3											
12916	C	15	4.6	10	<2.3	0.1											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Ah 0-12
Bm 12-28
B/C 28-50
C 50+

Site: Novar Experimental Plot
Location Code: 5017131
UTM: 17T 06370 50367
Classification: Orthic Sombric Brunisol
Landform: outwash plain
Slope: level

Date: 80/07/29
Parent Material: glacial/fluvial sand
Vegetation: mixed hardwood
Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12929	Ah	0-12	10YR 4/3, 3/3 m	83	13	4.0	5.7	4.7	2.7	1.3				360	
12930	Bm	12-28	10YR 5/4, 4/4 m	88	9.0	3.0	5.8	4.9	1.5	0.96				440	
12931	B/C	28-50	10YR 6/4, 5/4 m	93	1.0	6.0	5.6	4.9	0.33	0.22				450	
12932	C	50+	10YR 6/4, 5/4 m	100	1.0	1.0	5.3	5.1	0.20	0.22				230	
12933	Ah	0-12					5.2	4.6		1.4				400	
12934	Bm	12-28					5.4	4.8		0.45				410	
12935	B/C	28-50					5.2	5.0		0.23				270	
12936	C	50+					5.4	5.2		0.12				250	
12937	Ah	0-12					5.9	5.0		1.6				370	
12938	Bm	12-28					5.8	5.0		0.98				590	
12939	B/C	28-50					5.4	5.1		0.20				400	
12940	C	50+					5.0	5.1		0.13				270	

SOIL PROFILE INFORMATION (cont'd.)

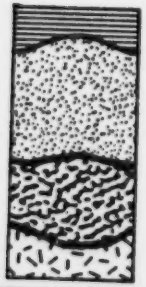
Site: Novar Experimental Plot

Classification: Orthic Sombric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12929	Ah	360	9.0	40	20	2.2	0.47	0.32	0.0085	1.3	0.54	0.031		73	8.9	4.0	3.8
12930	Bm	170	4.0	20	4	1.1	0.11	0.21	0.0012	0.55	0.48	0.0050		51	10	8.2	<3.0
12931	B/C	49	<0.70	10	7.5	0.3	0.050	0.12	0.00050	0.47	0.16	0.0030		39	15	36	<3.0
12932	C	38	<0.70	16	4.0	0.3	0.040	0.070	0.0015	0.29	0.11	0.0030	<1.0	30	12	79	<3.0
12933	Ah	84	4.7	27	54	1.1	0.21	0.18	0.0068								
12934	Bm	57	2.7	8.8	23	0.6	0.070	0.13	0.0015								
12935	B/C	38	<0.70	15	13	0.4	0.030	0.070	0.0012								
12936	C	27	<0.70	15	3.8	0.2	0.020	0.040	0.0010								
12937	Ah	430	9.0	30	12	2.4	0.21	0.15	0.0057								
12938	Bm	160	4.0	20	12	1.0	0.10	0.18	0.0015								
12939	B/C	38	<0.70	15	4.5	0.3	0.030	0.050	0.0012								
12940	C	33	<0.70	10	6.0	0.2	0.010	0.020	0.00090								

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	2-0
Ae	0-12
Bfj	12-33
B/C	33-42
C	42+



Site: Timberell Experimental Plot

Location Code: 5017134

UTM: 17T 03184 51935

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/30

Parent Material: glacial/fluvial sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12951	LFH	2-0	7.5YR 4/2 3/2 m				4.2	3.7		4.8				480	
12952	Ae	0-12	10YR 6/2, 5/2 m	NO SAMPLE											
12953	Bf	12-33	10 YR 5/6 4/6 m				5.6	5.0		0.46				600	
12954	B/C	33-42	10 YR 7/6 6/6 m				5.6	5.3		0.12				270	
12955	C	42+	2.5Y 7/4 6/4 m				6.0	5.3		0.12				310	

SOIL PROFILE INFORMATION (cont'd.)

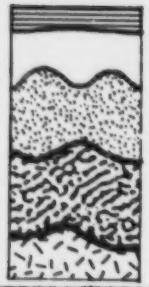
Site: Timberell Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12951	LFH	1900	120	220	100	12											
12952		NO SAMPLE															
12953	Bfj	60	4.5	30	3.5	0.5											
12954	B/C	24	<0.70	15	<2.3	0.2											
12955	C	27	<0.70	15	3.0	0.2											

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
LFH	2-0
Ae	0-12
Bfj	12-33
B/C	33-42
C	42+



Site: Timberell Experimental Plot

Location Code: 5017134

UTM: 17T 03814 51935

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/07/30

Parent Material: glacial/fluvial sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12941	LFH	2-0	7.5YR 4/2 3/2 m				4.5	4.1	21						
12942	Ae	0-12	10YR 6/2, 5/2 m	80	18	2.0	4.1	3.5	0.92	0.79				80	
12943	Bfj	12-33	10YR 5/6, 4/6 m	84	11	5.0	5.2	4.8	1.8	0.78				480	
12944	B/C	33-42	10YR 7/6, 6/6 m	90	7.0	3.0	5.3	5.2	0.49	0.24				380	
12945	C	42+	2.5Y 7/4, 6/4 m	97	<1.0	3.0	5.3	5.4	0.39	0.23				270	
12946	LFH						4.1	3.7		9.1				650	
12947	Ae						4.3	3.5		0.36				70	
12948	Bfj						5.1	4.7		0.74				800	
12949	B/C						5.7	5.3		0.25				330	
12950	C						5.9	5.3		<0.12				280	

SOIL PROFILE INFORMATION (cont'd.)

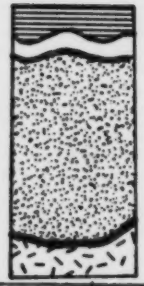
Site: Timberell Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12941	LFH						0.060	0.070	0.099	0.29	0.15	0.067		84	20	9.0	83
12942	Ae	100	5.0	30	220	2.8	0.020	0.020	0.00090	0.10	0.050	0.0030		7.9	15	<2.0	3.5
12943	Bfj	71	2.0	20	14	0.56	0.16	0.42	0.0025	1.1	1.0	0.015		43	5.7	14	4.5
12944	B/C	38	2.0	15	2.5	0.3	0.010	0.050	0.00070	0.18	0.22	0.0060	<1.0	17	6.8	13	<3.0
12945	C	38	2.0	10	2.5	0.3	0.010	0.070	0.00070	0.55	0.11	0.0040	<1.0	11	7.5	12	<3.0
12946	LFH	2600	240	240	180	17	0.12	0.27	0.058								
12947	Ae	130	9.0	40	180	2.6											
12948	Bfj	38	<0.70	30	14	0.4											
12949	B/C	38	<0.70	20	<2.3	0.3											
12950	C	38	<0.70	15	<2.3	0.3											

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ah	0-4
Ae	4-5
Bf_1	5-22
Bf_2	22-50
C	50+



Site: Parkinson Experimental Plots

Location Code: 5017136

UTM: 17T 03264 51401

Classification: Orthic Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/08/01

Parent Material: glacial/fluvial sand

Vegetation: red pine and aspen

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12986	Ah	0-4	10YR 4/1, 3/1 m	85	9.0	5.0	4.9	4.0	3.1	1.6				180	
12987	Ae	4-5	10YR 6/2, 5/2 m	83	13	4.0	5.1	4.2	1.2	0.70				100	
12988	Bf_1	5-22	10YR 6/6, 5/6 m	91	6.0	3.0	5.4	4.8	1.1	0.66				260	
12989	Bf_2	22-50	10YR 7/4, 5/4 m	88	10	3.0	4.9	4.0	2.6	0.41				140	
12990	C	50+	10YR 7/3, 6/3 m	92	1.0	8.0	5.9	5.5	0.01	0.12				120	
12991	Ah	0-4					5.4	4.5		1.5				270	
12992	Ae	4-5		No Sample											
12993	Bf1	5-22					5.6	4.9		0.74				290	
12994	Bf2	22-50					5.7	5.0		0.33				220	
12995	C	50+					6.0	5.4		0.22				260	

SOIL PROFILE INFORMATION (cont'd.)

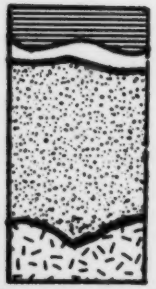
Site: Parkinson Experimental Plots

Classification: Orthic Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12986	Ah	280	18	54	160	3.3	0.16	0.15	0.0062	0.28	0.16	0.0070		65	8.4	5.3	34
12987	Ae	75	5.0	17	130	1.8	0.13	0.11	0.0034	0.33	0.12	0.0080					
12988	Bf1	37	<0.70	7.0	9.0	0.3	0.27	0.44	0.0048	0.36	0.45	0.0080		38	9.0	94	7.9
12989	Bf2	47	2.0	7.0	20	0.5	0.29	0.27	0.0021	0.46	0.27	0.0050		29	14	14	8.6
12990	C	15	2.3	4.3	<2.3	0.1	0.030	0.070	0.0025	0.11	0.070	0.0050	<1.0	20	13	130	4.1
12991	Ah	380	18	44	51	2.7											
12992	Ae					No Sample											
12993	Bf1	37	<0.70	12	4.0	0.3											
12994	Bf2	28	<0.70	7.0	<2.3	0.2											
12995	C	28	<0.70	7.0	<2.3	0.2											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Ah 0-4
Ae 4-5
Bf1 5-22
Bf2 22-50
C 50+

Site: Parkinson Experimental Plots

Location Code: 5017136

UTM: 17T 03264 51401

Classification: Orthic Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/08/01

Parent Material: glacial/fluvial outwash

Vegetation: red pine and aspen

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12996	Ah	0-4	10YR 4/1, 3/1 m				4.7	3.8		1.9				310	
12997	Ae	4-5	10YR 6/2, 5/2 m				4.8	4.1		0.70				190	
12998	Bf1	5-22	10YR 6/6, 5/6 m				5.3	4.6		0.89				270	
12999	Bf2	22-50	10YR 7/4, 5/4 m				5.8	5.0		0.34				230	
13000	C	50+	10YR 7/3, 6/3 m				6.1	5.3		0.23				320	

SOIL PROFILE INFORMATION (cont'd.)

Site: Parkinson Experimental Plots

Classification: Orthic Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12996	Ah	230	9.0	34	150	2.8											
12997	Ae	47	2.0	12	190	2.2											
12998	Bf1	37	<0.70	8.0	14	0.4											
12999	Bf2	38	<0.70	8.0	<2.3	0.2											
13000	C	38	<0.70	4.0	<2.3	<0.50											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Ah 0-3
Ae 3-20
Bfc 20-30
Bfj 30-70
B/C 70-100
C 100+

Site: St. Joseph's Island Experimental Plot

Location Code: 5017137

UTM: 17T 03264 51401

Classification: Ortstein Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/07/31

Parent Material: glacial/fluvial sand

Vegetation: mixed hardwood forest

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12965	Ah	0-3	10YR 4/1, 3/1 m	47	27	26	4.1	3.3	3.5	1.5				100	
12966	Ae_1	3-13	10YR 5/2, 4/2 m	90	6.0	5.0	4.6	3.6	1.4	0.49				50	
12967	Ae_2	13-20	10YR 6/2, 5/2 m	92	4.0	4.0	4.8	3.8	0.94	0.25				30	
12968	Bfc	20-30	7.5YR 4/4 3/4 m	92	2.0	6.0	5.2	4.2	1.6	0.37				100	
12969	Bfj	30-70	10YR 5/4, 4/4 m	95	2.0	3.0	5.5	4.7	0.67	0.24				120	
12970	B/C	70-100	10YR 6/4, 5/4 m	96	1.0	3.0	6.0	5.1	0.23	0.13				90	
12971	C	100+	10YR 7/4, 6/4 m	99	<1.0	2.0	5.8	4.8	0.15	0.13				80	

SOIL PROFILE INFORMATION (cont'd.)

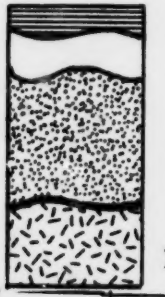
Site: St. Joseph's Island Experimental Plot

Classification: Ortstein Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12965	Ah	230	18	60	120	2.6	0.080	0.050	0.0019	0.22	0.060	0.0050		23	6.4	2.9	29
12966	Ael	71	4.0	15	76	1.2	0.050	0.040	0.0010	0.16	0.050	0.0020		7.5		85	<3.0
12967	Ae2	82	4.0	15	50	0.99	0.030	0.030	0.00040	0.14	0.030	0.0020		3.7	2.4	69	<3.0
12968	Bfc	93	4.0	15	81	1.4	0.60	0.35	0.00070	0.56	0.40	0.0020		12	27	40	<3.0
12969	Bm	47	5.0	2.0	26	0.5	0.090	0.21	0.0011	0.24	0.22	0.0020		18	6.8		<3.0
12970	B/C	47	2.0	2.0	<2.3	0.5	0.060	0.13	0.0019	0.16	0.13	0.0050	<1.0	11	20	65	<3.0
12971	C	19	<0.70	2.0	<2.3	0.1	0.040	0.070	0.0017	0.15	0.070	0.0040		8.3	14	93	<3.0

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Horizon	Depth (cm)
Ah	0-3
Ae	3-20
Bfc	20-30
B/C1	30-70
B/C2	70-100
C	100+

Site: St. Joseph's Island Experimental Plot

Location Code: 5017137

UTM: 17T 03264 51401

Classification: Ortstein Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/07/31

Parent Material: glacial/fluvial sand

Vegetation: mixed hardwood forest

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12972	Ah	0-3	10 YR 4/1, 3/1 m				4.3	3.4		1.0				80	
12973	Ael	3-13	10 YR 5/2, 4/2 m				4.7	3.6		0.10				120	
12974	Ae2	13-20	10 YR 6/2, 5/2 m				5.2	4.0		0.58				80	
12975	Bfc	20-30	7.5 YR 4/4 3/4 m				4.8	4.0		0.21				80	
12976	B/C1	30-70	10 YR 5/4, 4/4 m				5.3	4.7		0.12				660	
12977	B/C2	70-100	10 YR 6/4, 5/4 m				5.3	4.7		0.11				90	
12978	C	100+	10 YR 7/4, 6/4 m				5.7	4.9		0.11				90	

SOIL PROFILE INFORMATION (cont'd.)

Site: St. Joseph's Island Experimental Plot

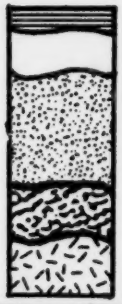
Classification: Ortstein Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
12972	Ah	230	27	54	100	2.5											
12973	Ae_1	120	9.0	17	87	1.6											
12974	Ae_2	100	9.0	7.3	34	0.95											
12975	Bf	240	18	7.0	170	3.0											
12976	Bfj	28	0.70	7.0	18	0.3											
12977	B/C	19	0.70	2.0	5.4	0.2											
12978	C	28	0.70	7.0	2.3	0.2											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)

Ah 0-3
Ae 3-20
Bfc 20-30
Bfj 30-70
B/C 70-100
C 100



Site: St. Joseph's Island Experimental Plot

Location Code: 5017137

UTM: 17T 02741 50143

Classification: Ortstein Humo-Ferric Podzol

Landform: outwash plain

Slope: level

Date: 80/07/31

Parent Material: glacial/fluvial sand

Vegetation: mixed hardwood forest

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
12979	Ah	0-3	10YR 4/1, 3/1m				4.4	3.5		2.7				140	
12980	Ae_1	3-13	10YR 5/2, 4/2m				4.4	3.5		0.92				50	
12981	Ae_2	13-30	10YR 6/2, 5/2m				4.7	3.8		0.52				40	
12982	Bfc	20-30	7.5YR 4/4 3/4m				5.6	4.6		0.28				110	
12983	Bfj	30-70	10YR 5/4, 4/4m				5.7	4.8		0.20				70	
12984	B/C	70-100	10YR 6/4, 5/4m				6.0	5.3		<0.13				50	
12985	C	100+	10YR 7/4, 6/4m				6.1	5.3		0.13				80	

SOIL PROFILE INFORMATION (cont'd.)

Site: St. Joseph's Island Experimental Plot

Classification: Ortstein Humo-Ferric Podzol

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
12979	Ah	300	18	34	130	2.9											
12980	Ael	140	9.0	17	82	1.6											
12981	Ae2	56	2.0	7.0	30	0.62											
12982	Bf	75	2.0	7.0	40	0.8											
12983	Bfj	47	2.0	2.0	14	0.4											
12984	B/C	28	<0.70	7.0	<2.3	0.2											
12985	C	37	<0.70	7.0	<2.3	0.2											

SOIL PROFILE INFORMATION

Horizon	Depth (cm)
Ap	0-22
Bm_1	22-30
Bm_2	30-40
B/C	40-65
C	65+

Site: Burwash Experimental Plot

Location Code: 5017140

UTM: 17T 05158 51262

Classification: Orthic Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/08/20

Parent Material: glacial/fuvial outwash

Vegetation: grass

Comments: tree seeding plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
13144	Ap	0-22	10YR 6/3, 4/3 m	66	29	6.0	5.6	4.7	1.8	1.5				440	
13145	Bm_1	22-30	10YR 6/4, 4/4 m	82	13	6.0	5.6	5.1	0.65	0.79				470	
13146	Bm_2	30-40	10YR 6/6, 4/6 m	96	1.0	3.0	5.7	5.3	0.25	0.22				320	
13147	B/C	40-65	10YR 6/4, 4/6 m	92	<1.0	8.0	6.0	5.6	0.080	0.22				400	
13148	C	65+	2.5Y 6/4, 5/4 m	96	1.0	3.0	6.1	5.4	0.050	<0.21				440	
13149	Ap						5.4	4.6		1.8				450	
13150	Bm						5.6	4.9		1.3				260	
13152	Bm_2						5.7	5.2		0.39					
13153	B/C						6.1	5.4		0.22				260	
13154	C						6.2	5.3		0.22				350	

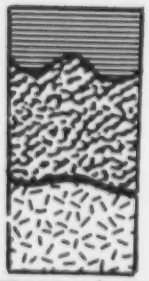
SOIL PROFILE INFORMATION (cont'd.)

Site: Burwash Experimental Plot

Classification: Orthic Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
13144	Ap	190	9.0	47	21	1.4	0.19	0.25	0.0029	0.50	0.26	0.0060		42	34	64	18
13145	Bm_1	56	2.3	22	<2.3	0.4	0.070	0.21	0.00070	0.41	0.27	0.0040	<1.0	35	12	30	<5.0
13146	Bm_2	56	2.3	22	<2.3	0.4	0.060	0.14	0.0012	0.35	0.21	0.0070	<1.0	32	13	34	<3.0
13147	B/C	30	4.6	16		0.2	0.030	0.14	0.0013	0.20	0.14	0.0070	<1.0	22	15	25	<3.0
13148	C	46	2.3	17	<2.3	0.2	0.030	0.090	0.0018	0.18	0.08	0.0060	<1.0	31	21	31	<3.0
13149	Ap	280	9.0	54	42	2.0											
13150	Bm_1	140	5.0	22	9.0	0.87											
13152	Bm_2	66	2.0	17	<2.3	0.4											
13153	B/C	190	7.0	17	<2.3	1.0											
13154	C	85	5.0	17	<2.3	0.5											

SOIL PROFILE INFORMATION

Horizon		Depth (cm)
Ap		0-22
Bm_1		22-30
Bm_2		30-40
B/C		40-65
C		65+

Site: Burwash Experimental Plot

Location Code: 5017140

UTM: 17T 05158 51262

Classification: Orthic Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/08/20

Parent Material: glacial/fuvial outwash

Vegetation: grass

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
13155	Ap	0-22	10YR 6/3, 4/3 m				5.3	4.6		1.4				310	
13156	Bm_1	22-30	10YR 6/4, 4/4 m				5.5	4.9		0.62				210	
13157	Bm_2	30-40	10YR 6/6, 4/6 m				5.6	5.2		0.44				310	
13158	B/C	40-65	10YR 6/4, 4/6 m				6.0	5.6		<0.22				620	
13159	C	65+	2.5Y 6/4, 5/4 m				6.1	5.5		0.23				360	

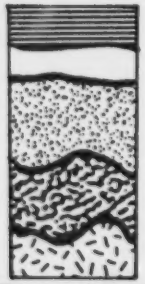
SOIL PROFILE INFORMATION (cont'd.)

Site: Burwash Experimental Plot

Classification: Orthic Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
13155	Ap	94	<1.4	54	43	1.0											
13156	Bm_1	100	5.0	27	13	0.76											
13157	Bm_2	94	2.0	27	<2.3	0.58											
13158	B/C	45	4.6	13		0.3											
13159	C	56	2.0	17		0.3											

SOIL PROFILE INFORMATION

Horizon		Depth
Ah		0-6
Ae		6-10
Bf		10-17
B/C		17-37
C		37+

Site: Firesand Creek Wawa Experimental Plot

Location Code: 5017141

UTM: 16T 06750 53189

Classification: Eluviated Dystric Brunisol

Landform: outwash plain

Slope: level

Date: 80/09/16

Parent Material: outwash sand

Vegetation: jack pine

Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry, moist)	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
13214	Ah	0-6	10YR 3/2, 2/2 m	53	26	20	3.8	3.2	17	6.9				570	
13215	Ae	6-10	10YR 6/2, 5/2 m	48	41	11	4.3	3.6	1.7	1.0				300	
13216	Bf	10-17	10YR 5/4. 4/4 m	84	12	5.0	5.4	4.9	1.5	0.61				450	
13217	B/C	17-37	10YR 7/4, 5/4 m	95	2.0	3.0	5.6	5.3	0.20	0.23				370	
13218	C	37+	2.5Y 7/4, 5/4 m	95	3.0	3.0	5.7	5.3	0.19	0.19				280	
13219	Ah	0-6					3.9	3.2		3.3				470	
13220	Bf	10-17					3.3	4.8		0.94				540	
13221	B/C	17-37					5.4	5.2		0.17				210	
13222	C	37+					5.6	5.2		0.15				250	

SOIL PROFILE INFORMATION (cont'd.)

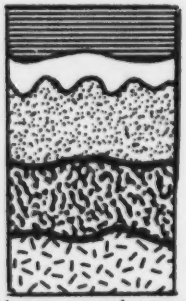
Site: Firesand Creek Wawa Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
13214	Ah	610	160	160	480	9.5	0.17	0.19	0.0073	0.43	0.19	0.012		61	20	7.9	83
13215	Ae	56	5.0	37	430	4.8	0.33	0.16	0.00070	0.33	0.19	0.0040		23	8.9	5.0	9.5
13216	Bf	47	5.0	17	5.0	0.4	0.22	0.52	0.0018	0.93	0.72	0.0090		66	23	34	8.0
13217	B/C	37	5.0	12	<2.3	0.3	0.050	0.18	0.0026	0.34	0.23	0.11	<1.0	54	36	64	4.5
13218	C	37	5.0	17	<2.3	0.3	0.050	0.17	0.033	0.33	0.22	0.11	<1.0	48	51	53	3.8
13219	Ah	340	44	100	440	6.7											
13220	Bf	47	5.0	22	5.0	0.4											
13221	B/C	19	<0.70	7.0	<2.3	0.1											
13222	C	28	<0.70	17	<2.3	0.2											

SOIL PROFILE INFORMATION

Horizon / Depth (cm)



Ah 0-6
Ae 6-10
Bf 10-17
B/C 17-37
C 37+

Site: Firesand Creek Wawa Experimental Plot
Location Code: 5017141
UTM: 16T 06750 53189
Classification: Eluviated Dystric Brunisol
Landform: outwash plain
Slope: level

Date: 80/09/16
Parent Material: outwash sand
Vegetation: jack pine
Comments: tree seedling plot

Sample No.	Horizon	Depth (cm)	Colour (dry,	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
13223	Ah	0-6	10YR 3/2, 2/2 m				3.7	3.4		7.8				720	
13224	Ae	6-10	10YR 6/2, 5/2 m				4.4	3.7		0.82				160	
13225	Bf	10-17	10YR 5/4, 4/4 m				5.7	5.3		0.72				1000	
13226	B/C	17-37	10YR 7/4, 5/4 m				5.9	5.6		<0.13				330	
13227	C	37+	2.5Y 7/4, 5/4 m				5.8	4.6							

SOIL PROFILE INFORMATION (cont'd.)

Site: Firesand Creek Wawa Experimental Plot

Classification: Eluviated Dystric Brunisol

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e./100g)	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
13223	Ah	770	130	290	420	9.9											
13224	Ae	37	9.0	37	430	4.6											
13225	Bf	56	5.0	17	<2.3	0.4											
13226	B/C	15	4.6	10		0.81											
13227	C	37	5.0	12	<2.3	0.3											

NORTHWESTERN REGION

Bedrock Geology

The whole Northwestern Region is underlain by the ancient crystalline rocks of the Canadian Shield. The area is divided into three major geological regions: The Hudson Platform (Hudsons Bay Lowlands), and the Superior and Southern Provinces of the Canadian Shield (Clayton et al., 1977).

The Hudson Platform, in the north of the region, consists of sedimentary formations that occupy a basin in the Canadian Shield and overlie igneous and metamorphic bedrock. These Paleozoic sedimentary bedrock formations are of Ordovician and Silurian age and are primarily limestones, sandstones, siltstones and shales. These rocks are generally high in carbonates and therefore have a high buffering capacity.

The Canadian Shield, the major geological unit in the region, consists primarily of igneous and metamorphic bedrock, more specifically, which are complexes of granitic, gneissic, metasedimentary, volcanic and even some sedimentary material. The northern Superior Province is the larger of the two structural provinces. It is of early Precambrian origin and is mainly acid granodiorite, granite, quartz diorite, granite gneiss, and granitized and derived metamorphic sedimentary and volcanic rock. The bedrock of Superior Province is considered to be of high sensitivity to the effects of acid precipitation (Shilts, 1981).

The smaller Southern Province is in the southern part of the Northwestern Region and is made up of the middle Precambrian rocks of the Port Arthur Hills and the Late Precambrian rocks of the Nipigon Plate. (The Nipigon Plate, also referred to as the Nipigon Plain, is sometimes included as part of Superior Province). The rocks of the Southern Province are mostly basic intrusive diabase sills and dykes as well as sedimentary and volcanic rocks such as sandstone, quartzite, conglomerate, and shale. These rocks have a low to high intermediate sensitivity to acid precipitation (Shilts, 1981).

Glacical History and Surficial Geology

The Quaternary period includes the Pleistocene and Recent epochs. During this period, continental glaciers covered and greatly modified the Northwestern Region. The history of the Quaternary is complex and involved several advances and retreats of the continent ice sheets. The last glaciation, the Wisconsin, is of greatest interest because the present physiography is largely a result of this ice invasion. The ice began to retreat from the southern parts of the Northwestern Region about 12,500 B.P. Although the ice was gone from most of the area by 8,000 B.P. (Prest, 1970), ice may have been present in northern parts as late as 5,000 B.P.

The Laurentide Ice Sheet covering northwestern Ontario was composed of two sectors, the Labrador, which came from the northeast, and the Keewatin, from the northwest. Glacial drift carried by these glaciers could have originated locally or been carried from sources far to the northeast or to the northwest of the region. However, most drift material is thought to be of local provenance and to have come from sources a few kilometers to a few hundred kilometers from the present place of deposition.

The Hudson's Bay Lowlands were scoured and abraded by the passing ice and ice debris. Depression of the area by the weight of the ice resulted in inundation by the Tyrell Sea for several thousand years after the ice retreated.

The flat plain exposed today is covered with marine deposits of clay, silt, sand and gravel. Moraines, eskers, and even raised beaches are found as far as 270 km inland. Many of these glacial and marine deposits are derived from the sedimentary bedrocks of this area, hence the soils formed on them are of high cation exchange capacity, and are resistant to change by acidic deposition. The Lowlands slope gently from south to north and are poorly drained resulting in a surface composed mainly of organic "muskeg" terrain, string bogs, quaking bogs, ponds, lakes, and meandering watercourses. Owing to the limited accessibility and low sensitivity of the Lowlands, there are no baseline study sites located in this region.

The ice sheet also stripped the hard bedrock of the Canadian Shield of its weathered mantle of soil, replacing it with shallow glacial drift made up of gravel, sand, silt, and clay. Ground moraines end moraines and drumlins consisting of undifferentiated till were also formed. Much of the Shield area is a peneplain of low relief, with moderately rolling plains and bedrock outcrops (Hutton and Black, 1975), but there are also strongly broken uplands, especially in the south, with maximum elevations of over 600 metres. Drainage in the Shield area was deranged by the glacial action during the Quaternary period and since that time, the hard bedrock has resisted steam channel development. The result is a poorly drained region of many lakes, streams, muskeg areas and rock outcrops. Fluvial deposits, (such as outwash deposits and eskers) are common in the region, and vary in texture from gravels to sands and even fine silts and clays.

The retreat of the Laurentide Ice Sheet caused the formation of large temporary freshwater lakes. These glacier-fed lakes were present in the Northwestern Region for a period of about 4,000 years from about 12,000 B.P. to 8,000 B.P. Three large dynamic lake complexes existed: Lake Agassiz in the west, Duluth-Minong-Houghton Lakes in the Superior Lake Basin in the centre, and Lake Barlow-Ojibway in the east (Prest, 1970). These lakes left raised beaches, sand and gravel ridges and water-cut bluffs in the region, as well as large lacustrine deposits of sand, silt and clay. The flat lacustrine deposits near Thunder Bay, Dryden and Fort Frances, are used for agriculture, and have produced some of the better forest soils in the region. Lake Barlow-Ojibway produced the extensive clay deposits known as the Clay Belt. It should be noted, however, that some fine deposits are not of water origin. Extensive aeolian deposits of fine sand and silts are also present such as those near Lac des Mille Lac northwest of Thunder Bay.

The present clay soils in the Northwestern Region vary from thin, sandy acidic soils to deeper well buffered clay soils. Recent modification of the soil in the region has been due to logging operations, forest fires and to a lesser extent agricultural practices.

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DD/mb/PH5-2

SOIL BASELINE ANALYTICAL DATA, 1980-1981

NORTHWESTERN REGION

SOIL PROFILE INFORMATION

Site: Nakina

Date: 81/06/03

Location Code: 6001001

UTM: 16U 516000 5560000

Vegetation: mature white pine stand

Landform: fluvial

Comments: gravelly organic layer 0 - 3 cm not sampled. Soil depth >1m. Igneous, metamorphic bedrock

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16503	surface mineral	5-10	5YR 6/1	67	27	7.0	4.9	3.7	2.0	0.40			<3.0	100	8.9
16504	surface mineral	5-10	5YR 6/1	59	33	8.0	4.8	3.7	2.5	0.50			<3.0	100	7.9
16499	mineral	10-30	7.5YR 4/6	86	10	4.0	5.3	4.7	1.8	0.30			<3.0	400	3.2
16500	mineral	10-30	7.5YR 4/6	81	15	4.0	5.3	4.6	0.90	0.30			<3.0	200	3.9
16501	mineral	30+	10YR 5/6	95	1.0	3.0	5.7	4.8	0.90	0.20			<3.0	300	1.4
16502	mineral	30+	10YR 5/6	86	11	3.0	5.7	4.9	0.60	0.20			<3.0	300	1.4

SOIL PROFILE INFORMATION (cont'd.)

Site: Nakina

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16503	surface mineral	120	13	6.0	280	3.5	0.12	0.10	0.00080	0.32	0.10	0.0026		13	25	<2.0	5.1
16504	surface mineral	190	22	14	280	4.0	0.14	0.11	0.00060	0.33	0.11	0.0011		9.9	21	<2.0	<3.0
16499	mineral	35	2.0	3.0	43	0.63	0.12	0.25	0.00060	0.46	0.27	0.0017		14	19	6.6	<3.0
16500	mineral	22	3.0	3.0	56	0.70	0.12	0.20	0.00080	0.56	0.24	0.0026		13	10	7.0	<3.0
16501	mineral	33	6.0	6.0	14	<0.50	0.044	0.12	0.0050	0.25	0.14	0.012		21	22	13	3.2
16502	mineral	22	1.0	3.0	16	<0.50	0.060	0.18	0.0040	0.33	0.20	0.0097		16	14	9.5	<3.0

SOIL PROFILE INFORMATION

Site: Lake Nipigon Provincial Park

Location Code: 6001007

UTM: 16U 418300 5479700

Landform: rock outcrop

Slope:

Date: 81/06/04

Parent Material: bedrock

Vegetation: 60% white spruce and balsam fir, jack pine, white birch and aspen

Comments: shallow soil (20 cm to bedrock). Organic horizon 0-7 cm. not sampled.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16597	surface	7-20	10R 3/2	50	42	8	5.6	4.7	9.3	1.5			<3.0	800	4.1
16512	surface	7-20	10R 3/2	53	37	10	6.0	4.9	8.1	1.6			<3.0	800	0.64

SOIL PROFILE INFORMATION (cont'd.)

Site: Lake Nipigon Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
16597	surface	420	62	67	62	3.4	0.47	0.72	0.036	2.2	0.97	0.11		130	150	64	<3.0
16512	surface	630	95	98	22	4.5	0.23	0.71	0.011	1.9	1.1	0.021		100	150	72	<3.0

SOIL PROFILE INFORMATION

Site: Dorion Site

Date: 81/06/04

Location Code: 6001008

UTM: 16U 382900 5411300

Vegetation: 80% jack pine, white spruce, aspen and white birch

Landform: lacustrine

Comments: carbonotite bedrock. Organic horizon 0-4 cm. not sampled. Indistinct horizon boundaries.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16517	mineral	4-12	10YR 3/4	76	18	7.0	5.9	4.8	2.3	0.40			35	700	0.54
16596	mineral	4-12	10YR 3/4	74	19	8.0	5.7	4.5	2.7	0.40			40	500	2.8
16599	mineral	12-50	10YR 3/4	93	6.0	1.0	6.0	4.8	1.7	<0.10			4.0	400	1.8
16518	mineral	12-50	10YR 3/4	89	2.0	9.0	6.3	5.2	1.0	<0.10			<3.0	400	0.23

SOIL PROFILE INFORMATION (cont'd.)

Site: Dorion Site

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16517	mineral	720	160	73	61	5.7	0.34	0.25	0.19	1.8	0.27	0.048		78	48	19	10
16596	mineral	530	170	81	120	5.4	0.26	0.16	0.022	1.7	0.18	0.068		68	52	15	<3.0
16599	mineral	300	130	82	42	3.0	0.052	0.10	0.0054	1.4	0.15	0.036		38	25	20	6.3
16518	mineral	480	130	72	13	3.8	0.11	0.18	0.0076	1.5	0.23	0.026	<1.0	43	30	21	7.8

SOIL PROFILE INFORMATION

Site: Sandbar Provincial Park

Date: 81/06/09

Location Code: 6001010

UTM: 15U 606100 5482500

Vegetation: 50% jack pine, balsam fir, black spruce and aspen

Landform: fluvial/moraine

Comments: stoney below 50 cm, well-drained. Organic horizon 0-6 cm not sampled.

Slope: rolling

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16523	surface	6-15	10YR 3/6	37	59	2.0	5.8	4.5	5.6	1.3			<3.0	500	1.9
16530	surface	6-15	10YR 3/6	32	66	2.0	5.7	4.8	4.1	0.80			<3.0	400	0.34
16522	mineral	15-34	10YR 5/4	58	39	4.0	6.1	5.3	1.4	0.40			<3.0	200	0.22
16531	mineral	15-34	10YR 5/4	62	30	8.0	6.1	5.3	1.4	0.40			<3.0	200	0.45
16532	mineral	34-50	10YR 6/4	70	24	6.0	6.3	5.5	0.70	<0.10			<3.0	100	0.32
16521	mineral	34-50	10YR 6/4	77	15	7.0	6.2	5.4	0.30	<0.10			<3.0	100	0.16

SOIL PROFILE INFORMATION (cont'd.)

Site: Sandbar Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16523	surface	150	10	22	43	1.5	0.19	0.53	0.0012	1.1	0.87	0.0039		30	21	12	5.4
16530	surface	120	10	9.0	38	1.0	0.13	0.35	0.0027	0.87	0.66	0.0065		24	21	11	<3.0
16522	mineral	53	3.0	4.0	8.0	<0.50	0.020	0.15	0.00060	0.53	0.30	0.0023	<1.0	24	19	11	<3.0
16531	mineral	57	4.0	6.0	7.0	<0.50	0.021	0.15	<0.00010	0.36	0.31	0.0015	<1.0	14	17	8.0	<3.0
16532	mineral	31	<1.4	3.0	10	<0.50	0.017	0.091	<0.00010	0.20	0.15	0.0005	<1.0	15	19	4.0	4.6
16521	mineral	15	<0.70	2.0	5.0	<0.50	0.014	0.068	0.00040	0.17	0.10	0.0006	<1.0	11	13	4.0	<3.0

SOIL PROFILE INFORMATION

Site: Aaron Provincial Park

Date: 81/06/09

Location Code: 6001013

UTM: 15U 525200 5511600

Vegetation: 70% jack pine, balsam fir, white spruce and balsam poplar

Landform: lacustrine

Slope: rolling

Comments: archean metasediments (shales, arkose). Organic horizon 0-3 cm not sampled. Deep soil, not sampled below 20 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16525	surface	3-7	5Y 4/2	3.0	77	19	5.9	4.9	5.9	0.60			14	400	0.58
16526	surface	3-7	5Y 4/2	2.0	99	<1.0	5.8	4.6		0.60			13	300	0.63
16527	mineral	7-20	5Y 6/3	3.0	75	22	6.0	4.8	0.80	0.30			11	300	0.41
16528	mineral	7-20	5Y 6/3	1.0	59	39	6.2	5.0	1.4	0.30			10	400	1.7

SOIL PROFILE INFORMATION (cont'd.)

Site: Aaron Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16525	surface	660	130	110	47	5.0	0.18	0.14	0.011	0.46	0.20	0.016		79	39	23	3.9
16526	surface	680	130	84	42	5.0	0.20	0.16	0.014	0.46	0.20	0.021		59	48	19	<3.0
16527	mineral	610	150	67	34	4.8	0.13	0.098	0.0057	0.49	0.10	0.027		66	40	22	4.8
16528	mineral	1400	330	110	15	10	0.068	0.043	0.0022	0.47	0.10	0.018		64	43	30	<3.0

SOIL PROFILE INFORMATION

Site: Ear Falls Site

Location Code: 6001015

UTM: 15U 485900 5605800

Landform: fluvial

Slope: rolling

Date: 81/06/10

Vegetation: 95% jack pine, black spruce

Comments: Organic horizon 0-6 cm. not sampled. Not sampled below 36 cm.

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16533	mineral	6-16	2.5Y 6/2	91	5.0	3.0	4.7	3.9	1.6	<0.10			17	200	9.8
16534	mineral	6-16	2.5Y 6/2	89	6.0	4.0	4.9	4.1	0.70	<0.10			9.0	100	9.5
16535	mineral	16-36	2.5Y 5/6	91	1.0	8.0	5.9	5.3	0.60	0.20			<3.0	300	0.19
16536	mineral	16-36	2.5Y 5/6	95	2.0	3.0	6.0	5.0	0.80	<0.10			<3.0	200	0.45

SOIL PROFILE INFORMATION (cont'd.)

Site: Ear Falls Site

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16533	mineral	38	5.0	13	130	1.6	0.080	0.072	<0.0001	0.21	0.072	<0.0002		8.5	15	<2.0	<3.0
16534	mineral	26	4.0	16	120	1.4	0.065	0.074	<0.0001	0.16	0.074	0.0018		5.0	10	<2.0	<3.0
16535	mineral	31	3.0	4.0	4	<0.50	0.040	0.067	<0.0001	0.16	0.12	0.0015	<1.0	6.9	38	6.4	<3.0
16536	mineral	53	7.0	10	16	0.50	0.019	0.110	<0.0001	0.24	0.17	0.00030		7.9	28	5.4	<3.0

SOIL PROFILE INFORMATION

Site: Blue Lake Provincial Park

Date: 81/06/10

Location Code: 6001017

UTM: 15U 466300 5527100

Vegetation: 60% jack pine, white birch, balsam fir and black spruce

Landform: fluvial

Comments: Organic horizon 0-5 cm not sampled. Soil depth 1.5 m. Mineral horizons stoney.

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16542	mineral	5-18	10YR 6/2	88	7.0	4.0	5.5	4.5	0.90	0.20			29	300	2.4
16543	mineral	5-18	10YR 6/2	85	9.0	6.0	5.7	4.6	1.2	0.20			31	400	1.7
16544	mineral	18-36	10YR 5/6	91	4.0	5.0	6.4	5.3	0.70	<0.1			19	600	0.42
16545	mineral	18-36	10YR 5/6	88	4.0	8.0	6.3	5.3	0.70	<0.1			19	700	0.17
16547	mineral	36-46	10YR 6/8	89	1.0	10	6.5	5.6	0.40	<0.1			7.0	500	0.38
16546	mineral	36-46	10YR 6/8	84	2.0	14	6.3	5.4	0.60	<0.1			13	500	0.090

SOIL PROFILE INFORMATION (cont'd.)

Site: Blue Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16542	mineral	66	17	22	61	1.0	0.11	0.12	0.021	0.31	0.12	0.043		14	11	2.9	<3.0
16543	mineral	110	24	31	66	1.5	0.15	0.12	0.0096	0.35	0.13	0.017		21	14	2.9	4.2
16544	mineral	66	13	22	7.0	0.50	0.036	0.11	0.00040	0.34	0.20	0.0013	<1.0	17	31	7.9	<3.0
16545	mineral	57	14	21	3.0	<0.50	0.040	0.11	0.00040	0.33	0.18	0.033	<1.0	20	64	7.9	<3.0
16547	mineral	47	9.0	17	3.0	<0.50	0.018	0.058	<0.00010	0.32	0.11	0.0005		12	26	6.2	<3.0
16546	mineral	46	9.0	14	4.0	<0.50	0.020	0.074	0.00020	0.28	0.15	0.0015	<1.0	21	58	7.9	3.4

SOIL PROFILE INFORMATION

Site: Caliper Lake Provincial Park

Date: 81/06/10

Location Code: 6001020

UTM: 15U 433300 5434000

Vegetation: 70% red pine, white spruce, balsam fir and jack pine

Landform: moraine

Comments: Deep soil not sampled below 22 cm. Organic horizon 0-10 cm not sampled. Stoney at 22 cm.

Slope: 35°

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16551	surface	10-15	7.5YR 4/2	82	14	4.0	5.5	4.5	4.2	0.70			150	3100	6.2
16552	surface	10-15	7.5YR 4/2	77	17	6.0	5.4	4.4	4.1	0.80			140	1900	8.6
16553	mineral	15-22	10YR 5/8	92	6.0	2.0	5.8	4.6	3.7	0.70			120	2700	3.5
16554	mineral	15-22	10YR 5/8	93	5.0	2.0	5.6	4.8	3.1	0.40			55	1700	2.9

SOIL PROFILE INFORMATION (cont'd.)

Site: Caliper Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.) / 100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16551	surface	170	43	50	97	2.0	0.54	0.73	0.0054	0.78	0.74	0.0093		79	32	13	<3.0
16552	surface	260	47	98	160	3.5	0.38	0.42	0.018	0.56	0.42	0.029		83	27	12	<3.0
16553	mineral	190	30	49	55	2.0	0.31	0.53	0.0029	0.60	0.56	0.0041		44	26	17	<3.0
16554	mineral	66	15	21	23	0.73	0.21	0.47	0.0017	0.51	0.63	0.0039		34	27	18	<3.0

SOIL PROFILE INFORMATION

Site: French Lake (Quetico)

Date: 81/06/11

Location Code: 6001022

UTM: 15U 637600 5392400

Vegetation: mixed balsam fir, white spruce white birch, red pine and white pine

Landform: moraine

Comments: Deep soil not sampled below 55 cm. Organic horizon 0-4 cm not sampled.

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16556	surface	4-8	10YR 2/1	38	54	8.0	5.5	4.6	3.6	0.60			22	600	4.3
16557	surface	4-8	10YR 2/1	38	55	7.0	5.5	4.6	4.8	0.80			33	800	3.1
16558	mineral	8-45	10YR 3/3	29	63	8.0	5.8	4.7	1.8	0.30			11	600	0.84
16559	mineral	8-45	10YR 3/3	48	47	5.0	5.7	4.7	1.8	0.40			5.0	400	2.3
16561	mineral	45-55	10YR 5/3	62	35	3.0	5.8	4.8	1.1	<0.10			7.0	300	1.3
16560	mineral	45-55	10YR 5/3	52	44	4.0	6.1	5.0	1.0	<0.10			6.0	300	<0.080

SOIL PROFILE INFORMATION (cont'd.)

Site: French Lake (Quetico)

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16556	surface	270	42	34	84	2.5	0.34	0.37	0.017	0.86	0.37	0.047		49	27	17	<3.0
16557	surface	400	54	42	73	3.3	0.35	0.30	0.0081	0.85	0.30	0.018		44	25	15	<3.0
16558	mineral	320	140	22	31	3.1	0.34	0.27	0.0036	0.95	0.27	0.025		55	26	21	<3.0
16559	mineral	210	53	36	79	2.5	0.19	0.14	0.0054	0.48	0.14	0.016		37	29	17	<3.0
16561	mineral	280	95	34	51	2.8	0.11	0.076	0.0016	0.50	0.10	0.0055		34	33	20	<3.0
16560	mineral	440	170	12	17	3.8	0.069	0.043	0.0007	0.44	0.061	0.0045		31	24	18	<3.0

SOIL PROFILE INFORMATION

Site: Sibley Provincial Park

Date: 81/06/25

Location Code: 6001028

UTM: 16U 366250 5356250

Vegetation: 50% aspen, white birch, white spruce and balsam fir

Landform: lacustrine

Comments: conglomerate, sandstone, shale sediments. Organic horizon 0-6 cm not sampled.

Slope: rolling

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16613	mineral	6-55	2.5YR 4/6	95	2.0	3.0	5.6	4.7	2.6	0.30			17	700	4.4
16614	mineral	6-55	2.5YR 4/6	94	6.0	1.0	5.6	4.7	1.8	0.30			<3.0	300	4.4
16615	mineral	55-65	10YR 4/4	92	1.0	7.0	6.2	5.4	0.6	<0.10			<3.0	200	0.27
16616	mineral	55-65	10YR 4/4	95	<1.0	5.0	6.3	5.4	0.6	<0.10			<2.0	200	0.16

SOIL PROFILE INFORMATION (cont'd.)

Site: Sibley Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16613	mineral	110	32	62	41	1.5	0.21	0.21	0.0022	1.0	0.47	0.0067		27	22	18	<3.0
16614	mineral	100	28	20	42	1.0	0.12	0.16	0.0038	1.1	0.32	0.0093		26	19	14	<3.0
16615	mineral	100	12	14	5.0	0.63	0.024	0.080	0.0017	0.84	0.24	0.017	<1.0	19	24	17	<3.0
16616	mineral	130	16	20	6.0	1.0	0.022	0.072	0.0018	0.40	0.12	0.010	<1.0	17	20	13	<3.0

SOIL PROFILE INFORMATION

Site: Middle Falls Provincial Park

Date: 81/06/26

Location Code: 6001030

UTM: 16U 305400 5321400

Vegetation: 70% balsam poplar, black ash and white spruce

Landform: lacustrine

Comments: middle precambrian sediments, poor drainage. Deep soil, only sampled to 20 cm.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16619	surface	0-12	10YR 2/2				6.5	5.9	21	4.3			11	800	0.11
16620	surface	0-12	10YR 2/2				6.6	5.8	18	4.4			16	900	0.17
16621	mineral	12-20	10YR 3/4	6.0	45	49	6.5	5.6	3.9	0.60			<3.0	500	0.19
16622	mineral	12-20	10YR 3/4	7.0	42	52	6.8	5.7	4.3	0.60			<3.0	600	0.082

SOIL PROFILE INFORMATION (cont'd.)

Site: Middle Falls Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16619	surface	4100	220	370		23	0.30	0.19	0.026	1.2	0.25	0.051		82	61	34	10
16620	surface	3600	910	310		26	0.28	0.17	0.024	1.2	0.23	0.048		78	48	30	10
16621	mineral	2100	620	110		16	0.13	0.056	0.0052	1.2	0.14	0.041		68	51	38	5.4
16622	mineral	2500	720	73		18	0.14	0.042	0.0033	1.3	0.13	0.31		66	56	38	6.0

SOIL PROFILE INFORMATION

Site: Ouimet Canyon Provincial Park

Date: 81/07/01

Location Code: 6001032

UTM: 16U 377200 5405200

Vegetation: mainly white birch and jack pine some black spruce, aspen

Landform: shallow till and bare rock

Comments: Organic horizon 0-2 cm not sampled. Bedrock at 60 cm.

Slope: gently rolling

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16623	surface	2-12		29	49	22	5.2	4.1	12	2.6			<3.0	400	22
16624	surface	2-12		29	49	22	5.3	4.2	12	2.6			<3.0	400	22
16625	mineral	12-60	2.5YR 4/6	41	45	14	5.4	4.7	5.1	1.0			8.0	300	9.0
16626	mineral	12-60	2.5YR 4/6	37	49	14	5.3	4.5	5.4	1.3			10	300	13

SOIL PROFILE INFORMATION (cont'd.)

Site: Ouimet Canyon Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16623	surface	320	62	39	410	7.3	1.0	0.88	0.0015	2.7	0.96	0.017		51	65	29	7.6
16624	surface	300	54	28	500	7.0	1.2	0.96	0.0023	2.7	0.97	0.018		50	76	27	5.8
16625	mineral	75	8	6	100	1.4	0.25	0.55	0.00020	1.6	0.77	0.0049		27	52	21	3.9
16626	mineral	93	15	9	170	2.3	0.27	0.54	0.00050	1.2	0.63	0.0080		36	60	29	7.0

SOIL PROFILE INFORMATION

Site: Kakabeka Falls Provincial Park

Date: 81/07/01

Location Code: 6001034

UTM: 16U 305000 5363600

Vegetation: 90% jack pine, aspen

Landform: lacustrine

Comments: precambrian carbonotite bedrock, no gravel. Organic horizon 0-3 cm not sampled. Only sampled to 50 cm.

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16630	surface	3-15	2.5YR 3/2	91	6.0	2.0	5.9	4.9	2.8	0.80			<3.0	600	1.1
16631	surface	3-15	2.5YR 3/2	75	11	14	6.3	5.2	3.6	0.60			6.0	700	0.38
16632	mineral	15-35	10YR 5/8	91	3.0	6.0	6.3	5.2	1.1	0.30			<3.0	300	0.43
16633	mineral	15-35	10YR 5/8	81	7.0	11	6.2	5.2	2.1	0.30			<3.0	400	0.25
16634	mineral	35-50	7.5YR 5/2	93	2.0	5.0	6.4	5.4	0.60	<0.10			4.0	400	<0.080
16635	mineral	35-50	7.5YR 5/2	90	2.0	8.0	6.5	5.5	0.9	<0.10			<3.0	300	0.13

SOIL PROFILE INFORMATION (cont'd.)

Site: Kakabeka Falls Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16630	surface	300	42	74	10	2.0	0.077	0.10	0.012	1.0	0.21	0.025		48	51	28	<3.0
16631	surface	480	91	87	6.0	3.4	0.12	0.13	0.014	1.3	0.27	0.043	<1.0	57	25	22	<3.0
16632	mineral	100	17	41	5.0	0.78	0.039	0.078	0.0025	1.0	0.19	0.016	<1.0	33	40	25	<3.0
16633	mineral	300	64	150	12	2.5	0.074	0.065	<0.00010	1.2	0.33	0.010	<1.0	42	34	25	<3.0
16634	mineral	110	21	45	4.0	0.87	0.066	0.076	0.00020	0.79	0.095	0.013	<1.0	27	50	19	<3.0
16635	mineral	95	18	49	5.0	0.79	0.015	0.047	0.00020	0.85	0.12	0.012	<1.0	35	48	23	<3.0

SOIL PROFILE INFORMATION

Site: Klotz Lake Provincial Park

Date: 81/07/14

Location Code: 6001037

UTM: 16U 578000 5510700

Vegetation: 50% aspen, white spruce, white birch and balsam fir

Landform: lacustrine

Comments: well drained, no gravel, metavolcanic rock. Organic horizon 0-5 cm not sampled.

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16686	mineral	5-14	5YR 8/2	10	83	7.0	5.0	4.0	2.7	0.40			<3.0	100	7.4
16687	mineral	5-14	5YR 8/2	9.0	81	9.0	5.5	4.4	2.3	0.40			<3.0	200	5.9
16688	mineral	14-21	10YR 6/4	10	86	3.0	5.5	5.0	1.7	0.30			<3.0	200	4.4
16689	mineral	14-21	10YR 6/4	8.0	65	27	6.2	5.4	2.6	0.40			<3.0	400	0.30
16690	mineral	21-25	10YR 6/6	3.0	47	50	8.2	7.4	3.2	0.50			<3.0	500	0.13
16691	mineral	21-25	10YR 6/6	7.0	68	24	6.0	5.1	2.2	0.30			<3.0	400	0.70

SOIL PROFILE INFORMATION (cont'd.)

Site: Klotz Lake Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16686	mineral	290	30	37	180	3.5	0.055	0.059	0.00020	0.16	0.042	0.00020		10	11	2.8	4.6
16687	mineral	400	58	18	150	3.8	0.096	0.056	0.00050	0.27	0.062	0.00030		16	50	5.3	<3.0
16688	mineral	400	58	29	97	3.5	0.10	0.050	0.00060	0.32	0.068	0.0013		13	10	6.0	<3.0
16689	mineral	920	150	48	<4.5	6.0	0.14	0.081	0.0025	0.56	0.14	0.010	<1.0	31	17	17	7.0
16690	mineral	2000	400	45		13	0.061	0.033	0.0033	0.59	0.11	0.029	12	52	34	29	5.4

SOIL PROFILE INFORMATION

Site: Pakwash Provincial Park

Date: 81/07/20

Location Code: 6001040

UTM: 15U 469300 5623700

Vegetation: 70% jack pine, black spruce and white birch

Landform: moraine

Comments: mafic and ultramafic igneous rock
Organic horizon 0-8 cm not sampled

Slope: level

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16760	mineral	8-15	5YR 5/2	89	8.0	4.0	4.9	3.9	1.8	0.40			33	500	16
16761	mineral	8-15	5YR 5/2	85	10	5.0	4.8	4.0	1.5	0.40			37	400	19
16762	mineral	15-35	10YR 4/6	85	1.0	14	6.1	5.1	1.4	0.20			9.0	400	0.56
16763	mineral	15-35	10YR 4/6	81	2.0	17	6.0	5.1	1.3	0.20			11	600	0.54
16764	mineral	35-55	10YR 4/6	81	2.0	17	6.3	5.4	0.50	<0.10			<3.0	500	0.26
16765	mineral	35-55	10YR 4/6	83	3.0	14	6.3	5.2	0.80	<0.10			7.0	300	0.62

SOIL PROFILE INFORMATION (cont'd.)

Site: Pakwash Provincial Park

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16760	mineral	57	14	34	180	2.0	0.37		0.0023	0.41		0.0049		68	7.2	12	5.3
16761	mineral	45	10	29	210	2.5	0.33		0.0038	0.44		0.0059		60	7.2	11	<3.0
16762	mineral	75	14	31	7.0	<0.50	0.064	0.22	0.00070	0.86	0.44	0.0031	<1.0	100	35	49	4.1
16763	mineral	40	8.0	11	7.0	<0.50	0.046	0.18	0.00030	0.61	0.38	0.0010	<1.0	82	33	39	<3.0
16764	mineral	40	9.0	21	5.0	<0.50	0.022	0.093	0.00090	0.44	0.20	0.0046	<1.0	58	55	40	3.5
16765	mineral	57	15	22	7.0	<0.50	0.060	0.17	0.00050	0.48	0.24	0.0018	<1.0	83	43	48	<3.0

SOIL PROFILE INFORMATION

Site: Experimental Lakes Area

Date: 81/07/21

Location Code: 6001043

UTM: 15U 448000 5503000

Vegetation: 50% jack pine, black spruce, balsam fir and white birch

Landform: fluvial

Comments: Deep soil. Organic horizon 0-12 cm not sampled.

Slope: base of hill

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16774	mineral	12-26	2.5YR 5/2	78	19	3.0	4.4	3.4	1.3	0.30			<3.0	100	16
16775	mineral	12-26	2.5YR 5/2	79	16	5.0	4.4	3.5	1.3	0.30			<3.0	100	17
16776	mineral	26-46	5YR 3/4	85	11	4.0	5.5	4.6	3.0	0.40			<3.0	300	5.2
16777	mineral	26-46	5YR 3/4	85	11	4.0	5.7	4.7	2.4	0.40			<3.0	300	2.6
16778	mineral	46-49	2.5YR 6/4	86	6.0	8.0	6.1	5.1	0.40	<0.10			<3.0	400	0.68
16779	mineral	46-49	2.5YR 6/4	89	1.0	11	6.0	5.1	0.50	<0.10			<3.0	500	0.42

SOIL PROFILE INFORMATION (cont'd.)

Site: Experimental Lakes Area

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16774	mineral	57	3.0	12	66	1.0	0.035		<0.00010	0.16		0.00050		5.4	3.2	<2.0	<3.0
16775	mineral	62	6.0	12	66	1.0	0.016	0.028	<0.00010	0.17	0.028	0.0018		6.4	3.2	2.5	<3.0
16776	mineral	170	23	42	73	2.0	0.14	0.29	0.00020	0.66	0.46	0.0015		24	5.2	10	4.2
16777	mineral	190	20	34	36	1.5	0.32	0.17	0.00050	0.55	0.39	0.0010		23	9.7	10	6.1
16778	mineral	49	8.0	7.0	7.0	<0.50	0.019	0.059	0.00060	0.19	0.082	0.00080	<1.0	6.9	3.7	5.0	<3.0
16779	mineral	33	6.0	7.0	6.0	<0.50	0.010	0.048	0.00070	0.15	0.065	0.0010	1.0	8.9	4.2	4.5	<3.0

SOIL PROFILE INFORMATION

Site: Beaverhouse Lake (Quetico)

Date: 81/07/22

Location Code: 6001046

UTM: 15U 569000 5381200

Vegetation: 50% jack pine, red pine, white pine, black spruce and red maple

Landform: moraine

Comments: rapidly drained. Organic horizon 0-5 cm not sampled.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16806	mineral	5-38	10YR 4/6	35	55	10	5.4	4.7	6.4	1.3			<3.0	400	10
16807	mineral	5-38	10YR 4/6	34	56	11	5.4	4.6	5.9	1.4			<3.0	400	12
16808	mineral	38-58	10YR 5/6	52	43	6.0	5.4	4.7	4.2	1.1			<3.0	300	6.4
16809	mineral	38-58	10YR 5/6	56	39	5.0	5.3	4.6	3.8	0.80			<3.0	300	5.8

SOIL PROFILE INFORMATION (cont'd.)

Site: Beaverhouse Lake (Quetico)

Sample No.	Horizon	Exchangeable Cations (ug/g)				C.E.C. (m.e.) / 100g	Pyrophosphate (%)			Dithionite (%)			$CaCO_3$ (%)	Metals (ug/g)			
		Ca	Mg	K	Al		Fe	Al	Mn	Fe	Al	Mn		Zn	Cu	Ni	Pb
16806	mineral	53	15	45	120	1.7	0.25	0.55	<0.00010	1.4	0.78	0.0044		67	25	31	7.0
16807	mineral	62	17	45	110	1.7	0.28	0.59	<0.00010	1.3	0.80	0.0036		72	28	32	9.1
16808	mineral	35	4.0	14	68	1.0	0.18	0.46	<0.00010	0.78	0.60	0.0018		37	23	23	4.1
16809	mineral	18	6.0	11	39	<0.50	0.20	0.45	<0.00010	0.85	0.66	0.0020		36	27	22	7.2

SOIL PROFILE INFORMATION

Site: Eva Lake (Quetico)

Date: 81/07/27

Location Code: 6001048

UTM: 15U 634900 5396400

Vegetation: some white pines

Landform: lacustrine silt

Comments: very bouldery. Organic horizon 0-9 cm. not sampled.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16843	mineral	9-24	5YR 3/3	5.0	86	9.0	5.6	4.5	6.7	1.9			35	1600	4.6
16844	mineral	9-24	5YR 3/3	4.0	86	10	5.6	4.5	6.3	1.7			29	1400	4.6
16845	mineral	24-30	7.5YR 5/6	3.0	91	7.0	5.8	5.0	4.4	1.1			7.0	800	3.0
16846	mineral	24-30	7.5YR 5/6	3.0	89	9.0	5.6	4.8	4.6	0.90			5.0	1000	5.2

SOIL PROFILE INFORMATION (cont'd.)

Site: Eva Lake (Quetico)

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16843	mineral	550	79	24	120	4.6	0.53	0.49	0.0018	1.1	0.62	0.0048		42	19	14	<3.0
16844	mineral	260	35	9.0	32	2.0	0.58	0.49	0.0023	1.2	0.58	0.0063		49	17	14	<3.0
16845	mineral	180	25	3.0	61	1.5	0.22	0.36	0.00020	1.0	0.49	0.0020		40	18	20	<3.0
16846	mineral	280	33	46	92	2.5	0.28	0.35	0.00020	1.1	0.50	0.0030		51	15	18	<3.0

SOIL PROFILE INFORMATION

Site: Lac La Croix Site

Date: 81/07/28

Location Code: 6001050

UTM: 15U 551700 5353200

Vegetation: 70% jack pine, white birch

Landform: lacustrine

Comments: precambrian granitic and gneisses. Organic horizon 0-7 cm not sampled.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16847	surface mineral	7-15	7.5YR 3/2	57	36	7.0	5.3	4.2	2.7	0.60			40	400	4.4
16848	surface mineral	7-15	7.5YR 3/2	57	35	8.0	5.1	4.2	2.5	0.50			37	300	6.7
16849	mineral	15-32	10YR 5/8	72	22	6.0	5.8	5.0	0.9	0.20			46	800	1.3
16850	mineral	15-32	10YR 5/8	65	26	9.0	5.9	5.1	0.5	0.20			34	700	0.86

SOIL PROFILE INFORMATION (cont'd.)

Site: Lac La Croix Site

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e.)/100g	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16847	surface mineral	300	33	46	90	2.8	0.12	0.097	0.013	0.26	0.097	0.015		19	13	4.5	4.2
16848	surface mineral	300	40	52	110	3.0	0.096	0.084	0.0077	0.21	0.084	0.0088		16	9.2	2.8	<3.0
16849	mineral	140	22	34	19	1.0	0.23	0.20	<0.00010	0.35	0.20	0.0010		20	6.2	8.2	<3.0
16850	mineral	150	30	43	15	1.0	0.20	0.17	0.0002	0.34	0.20	<0.00020	<1.0	21	6.4	8.9	<3.0

SOIL PROFILE INFORMATION

Site: Oiseau Bay (Pukaskwa)

Date: 81/08/04

Location Code: 6001052

UTM: 16U 560300 5330600

Vegetation: 60% jack pine

Landform: lacustrine

Comments: no gravel, rapidly drained. Organic horizon 0-7 cm not sampled.

Slope:

Sample No.	Horizon	Depth (cm)	Colour	Sand (%)	Silt (%)	Clay (%)	pH (H_2O)	pH ($CaCl_2$)	Organic C (%)	Total Nitrogen (mg/g)	Extr. S (ug/g)	Extr. SO_4 (ug/g)	Avail. P (ug/g)	Total P (ug/g)	Avail. Al (ug/g)
16874	mineral	7-25	10YR 6/1	97	1.0	2.0	4.9	4.0	0.50	<0.10			150	300	6.6
16875	mineral	7-25	10YR 6/1	97	<1.0	2.0	5.1	4.1	0.60	<0.10			9.0	200	5.5
16876	mineral	25-50	10YR 7/3	98	<1.0	1.0	5.6	4.7	0.30	<0.10			<3.0	300	2.3
16877	mineral	25-50	10YR 7/3	98	<1.0	2.0	5.6	4.6	0.30	<0.10			<3.0	200	2.6
16878	mineral	50-57	10YR 7/4	97	1.0	2.0	6.0	4.9	0.30	<0.10			<3.0	300	1.2
16879	mineral	50-57	10YR 7/4	98	<1.0	2.0	5.9	4.8	0.20	<0.10			<3.0	400	1.2

SOIL PROFILE INFORMATION (cont'd.)

Site: Oiseau Bay (Pukaskwa)

Sample No.	Horizon	Exchangeable Cations (ug/g) Ca	Mg	K	Al	C.E.C. (m.e./100g)	Pyrophosphate (%) Fe	Al	Mn	Dithionite (%) Fe	Al	Mn	$CaCO_3$ (%)	Metals (ug/g) Zn	Cu	Ni	Pb
16874	mineral	22	4.0	5.0	46	0.61	0.048	0.016	<0.00010	0.18	0.018	0.0012		8.1	3.9	<2.0	<3.0
16875	mineral	43	6.0	6.0	38	0.66	0.031	0.016	<0.00010	0.091	0.022	0.0010		8.1	9.9	<2.0	<3.0
16876	mineral	22	2.0	<0.80	15	<0.50	0.027	0.017	0.0010	0.10	0.025	0.0017		8.6	8.4	4.1	<3.0
16877	mineral	22	3.0	3.0	20	<0.50	0.046	0.023	0.0010	0.14	0.023	0.0015		9.1	7.9	4.1	<3.0
16878	mineral	35	5.0	<0.80	8.0	<0.50	0.015	0.012	0.00060	0.097	0.022	0.0022		9.6	12	4.2	<3.0
16879	mineral	23	4.0	2.0	8.0	<0.50	0.012	0.0090	0.00060	0.069	0.012	0.0012		8.1	3.4	3.7	<3.0